Gleanings in Bee Culture

CONTENTS

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Promoting Honey Sales — Dr. J. E. Eckert ..... 521 - 523
Make Your Beekeeping Meetings Pay Off — Charles W. Gouget .... 524 - 525
Adventures in Beekeeping — Robert D. Oglesby ..... 526 - 527
Let's Control Wax Moths — Dr. W. L. Coggshall ..... 528 - 530
Beekeeping in Switzerland — Thed Isler ..... 531 - 533
Removal of Moisture from Honey
— G. F. Townsend & P. W. Burke ..... 534 - 535
Honey Wine & Vinegar — Roger A. Morse ..... 536 - 538
From a Bunch of Bananas — Mrs. Benj. Nielsen 539
Live and Learn — Propolis Pete 540
Bee Facts 541
Asked and Answered ..... 542 - 543
Editorials ..... 544 - 546
From North, East, West and South ..... 547 - 552
Michigan's Honey Queen 553
Here's What is Happening in Maine — Albert Strout 553
American Honey Institute News Notes — Mrs. Harriet M. Grace 554
Second Glances — C. M. Isaacson 555
A Queen Reservoir is Worthwhile — N. C. Jensen 556
Requeening with Nitrous Oxide — Charles R. H. White 556
Getting Swarms Out of Buildings — H. C. Alden 557
New Way of Feeding Sulfa — I. F. Miller 558
Fall Feeding of Bees — M. J. Deyell 558
4-H Beekeeping in Florida — J. Francis Cooper 559
A Talk to Beginners — M. J. Deyell ..... 560 - 562
Honey Promotion "Down Under" 563
Just News ..... 564 - 565
Moving Bees 566
Bees Kill Camel — George P. Georghiou 566
Elmer G. Carr Passes On — Cecil K. Blanchard 566
Bees Take Part in Civil War — P. E. Braun 567
Weather Report and Outlook 568

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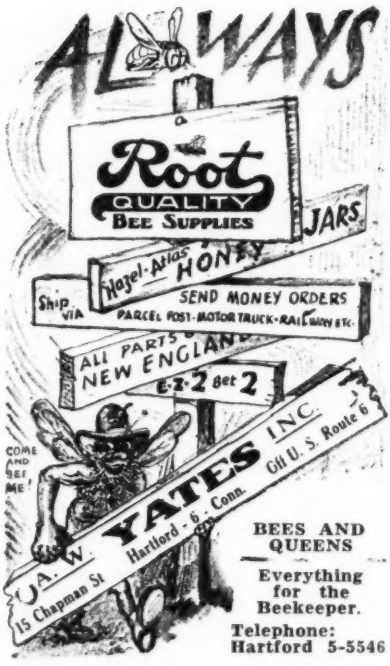

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AMERICAN BEE JOURNAL
Hamilton, Illinois

Monthly Honey Report
August 21, 1953

The following figures represent an expression of current prices from beekeepers and honey packers over the country. They are based on several reports from each state averaged with the reports in the region. Where insufficient information is returned, prices have been omitted from the chart. Where three figures appear on the chart the first figure represents the low, the middle figure represents the average, and the third figure the high price in cents per pound. Where only two figures are used the low and high are shown.

	North & South Atlantic	South Central	North Central	Mid-West	West
Bulk Honey:					
Table Grade	10¾-13-15c		11½c	11½c	16c
Industrial Grade	9½-11-12		9		
Price to Grocers:					
5 lb. jar - can	17-20-23½		16-19-21	16 18	11-16-17
3 lb. jar - 12's	22⅔-25-27⅓		23 25		
2 lb. jar - 12's	21-25-34⅓		19 27	20-23-27	23 25
1 lb. jar - 24's	12-14½-16		22 27	22-24-30	
Comb Honey:					
Cs. of 24 Sec.	8.40-9.50-10.50				
Retail Price:					
60 lb. can	15-17½-20	19 20	15-19-22½	15-17-20	13½-15-17
5 lb. jar	20-25-35		22-23-25	20 23	21-30-45
3 lb. jar	28-30-33	27 28	27-29-30		
2 lb. jar	25-32½-37½	30 32½	28 32	22-29-32	28-31-35
1 lb. jar	29-40-50	30 35	28-33-37	25-30-33	
Honey Sales:	Fair	Fair	Fair	Fair	Fair
Estimated Crop:					
Condition based on normal %	60	80	58		55

A few comments were as follows:

"Good lima bean crop. Bees built up on clover bloom for bean flow."—Delaware.

"DDT airplane spraying depleted many colonies, may not recover for winter."—N. Y.

"Recent rains helping the fall honey plants,—our big hope now."—Pennsylvania.

"Crop of light honey very poor."—Wisconsin.

"Fine rains in July assure good fall flower flow. Small producers holding best honey for home customers and not offering it to packers because of very short mesquite crop."—Arizona.

"Prices would firm up if producer distress lots were not offered."—Oregon.

"For past eight days bees have not gathered a living because of cool and rainy weather."—Minnesota.

"Short crop so far. Alfalfa yielding well. Fall flow could be best in years."—Minnesota.

"Honey crop so far not too good, because of lack of rain through June and July. The clovers have done fair. Bees are in good shape now as to stores. Have had a good rain the past week—the best for a week."—Kansas.

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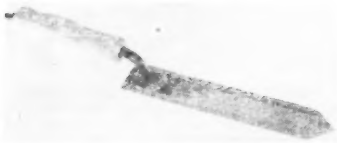

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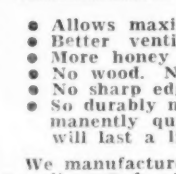

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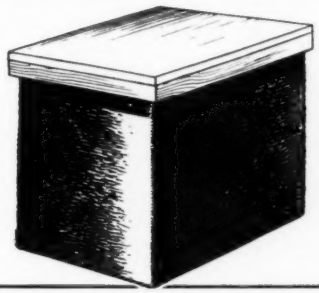

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Gleanings in Bee Culture

Created to help beekeepers succeed

Promoting Honey Sales

By Dr. J. E. Eckert, Davis, California

DURING THE past year the honey program of the government, conducted during the summer and culminating in October, was perhaps the largest boost honey has ever received at the point-of-sale level with several thousand store displays of honey over the country and much publicity in Food-Trade journals. Yet with all this it fell short of its goal because of the lack of support given to the program by local beekeepers in the various parts of the country. This year we have another chance, for the government is again going ahead with a sales promotion campaign for honey to culminate with Honey Week, October 26th to 31st. We need to act fast. Get sales helps from the American Honey Institute, Madison, Wisconsin, and keep in touch with your state and county beekeeping association who will contact the Marketing Committee of the American Beekeeping Federation.

As a rule, beekeepers are interested in their work and are acquainted with the merits of honey but are somewhat slow in making contacts with the buying public or with their potential customers.

Generally speaking, there are comparatively few honey bottlers or salesmen to sell the large honey crop produced in this country. Many of those who do bottle honey sell it again to wholesale brokers or jobbers who may have many other food items to advertise and sell. Few devote full time to the sale of honey. For this reason, producers should be more interested in promoting the sale of honey at local, state and national levels.

The American Honey Institute is our principal source of information and of informative literature on honey and its many uses. While Mrs. Grace and her co-workers try to contact beekeepers by letter and through the bee journals, more beekeepers should become better acquainted with the literature available from the AHI. Give-away copies of recipes and suggested uses of honey are available practically at a cost that no beekeeper can duplicate. It is important, however, for beekeepers to secure a sufficient number of the honey pamphlets well in advance of the time they are wanted for distribution.

WHAT CAN producers do locally to aid in the Honey Promotion Program this summer and fall? In California, beekeepers have organized a Honey Marketing Order wherein each producer and each honey handler pays into a common fund five cents each for every 60 pounds of honey produced or sold in the state. This fund is used for the promotion of the sale of honey through

R & Z Library

advertising and research. Colorado has a state program and other states could do likewise.

In addition, committees and individual beekeepers can take an interest in making honey exhibits at various fairs; promote special exhibits of bees and honey in food markets and local stores, provide exhibit hives and contests for the school, boy scouts and other youth organizations; provide speakers for the service clubs and see that honey and hot rolls are served during the meals; take special interest in how your grocer displays honey and suggest that honey be kept on the top shelves (where it can be seen) and where it will catch and reflect the lights of the store, thus improving the appearance and beauty of the shelves. There are dozens of other ways in which local beekeepers can devote a small amount of time at intervals to promote the sale of honey locally.

BUT MANY beekeepers say that they sell their honey wholesale and have little interest in the retail sales of honey. Regardless of whose honey a beekeeper may help his grocer sell, if there is a demand for honey in **all** food markets, the demand will tend to strengthen the wholesale market and thus improve the lot of the wholesale producer. If a handler has to do all of the honey promotion, then he will have to charge more for the product or pay the producer less. It is generally easier to pay less than to raise the retail price.

It is obvious that to have every beekeeper contact his grocer and offer suggestions for the display of honey might defeat the purpose of improving the display. The same thing is true if every beekeeper were to contact the civic clubs, schools, and youth organizations. Local groups of beekeepers can get together, talk over plans and appoint committees to make the contacts. Others can organize interest in honey displays, honey publicity, and arrange with the American Honey Institute for the literature needed.

Newspapers will carry illustrations and items of interest pertaining to honey, honey uses, pollination practices, and other special phases of the beekeeping industry. The articles should be short, concise, and well written. Radio stations frequently will make announcements of meetings, production records, and items of general interest. Here again, committees of local, county or state beekeepers' organizations are better than several individuals trying to do the same thing.

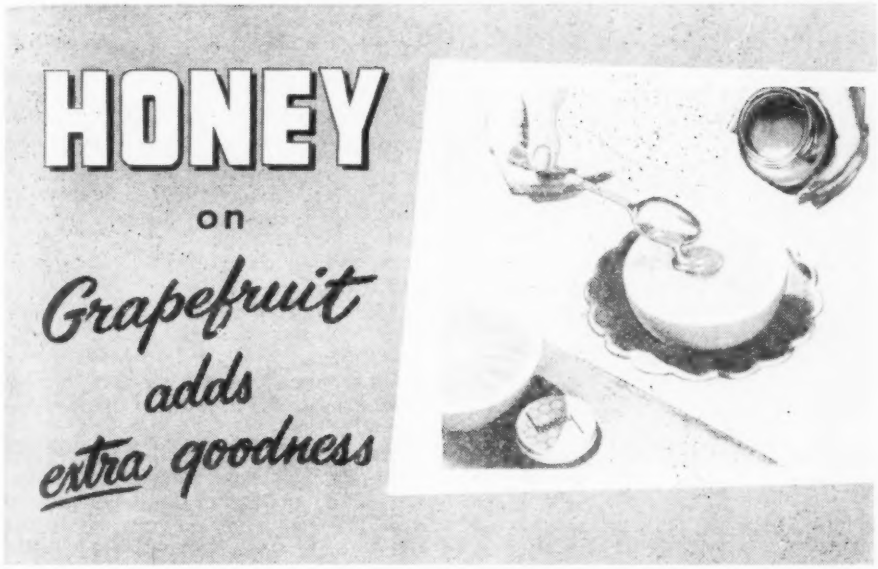
The Government program has stimulated much interest in honey by providing honey for school lunches. Local beekeepers can follow up this interest by seeing that the home economics teachers have honey for use in student classes, together with adequate recipes for the students to take home with them. Students can be encouraged to see who can make the best cakes or the best cookies with honey donated by local beekeepers. These interests may spread to many homes and encourage families to use more honey.

Television has been used to good advantage in the promotion of honey by some of the more enterprising beekeepers and honey handlers. These contacts are generally worked out well in advance by the technical staff of the radio stations, but the beekeepers involved should make sure that the publicity is correct and that the bees are handled safely.

THIS YEAR is the centennial year for the introduction of the honey bee into California and this fact can be used to advantage in getting some notice in the papers or over the radio about honey and the honey industry.

The setting of various dates for the use of different agricultural products has become an established custom in all parts of this country. The American Honey Institute has established certain dates for the use of honey. Local committees can help themselves and others in the sale of honey by making a special effort to get honey publicity in their papers and over the radio at such times.

It is certain that if every beekeeper will spend only a few hours this summer and fall to promote the use of honey, the sum total of the effort will add greatly to the national honey promotion programs that are being promoted by the Government agencies, the National Beekeeping Federation, and the American Honey Institute.



New Honey Posters Available

These four-color (blue, yellow, white, and brown) posters should boost sales of your new honey crop. Try to place them in strategic places in your local independent and chain food stores. Why don't you write to the American Honey Institute today and ask for a dozen posters? The address is American Honey Institute, Commercial State Bank Building, Madison 3, Wisconsin.

XUM

Make Your Beekeeping Meetings Pay Off

By Charles W. Gouget, Glen Ellyn, Illinois

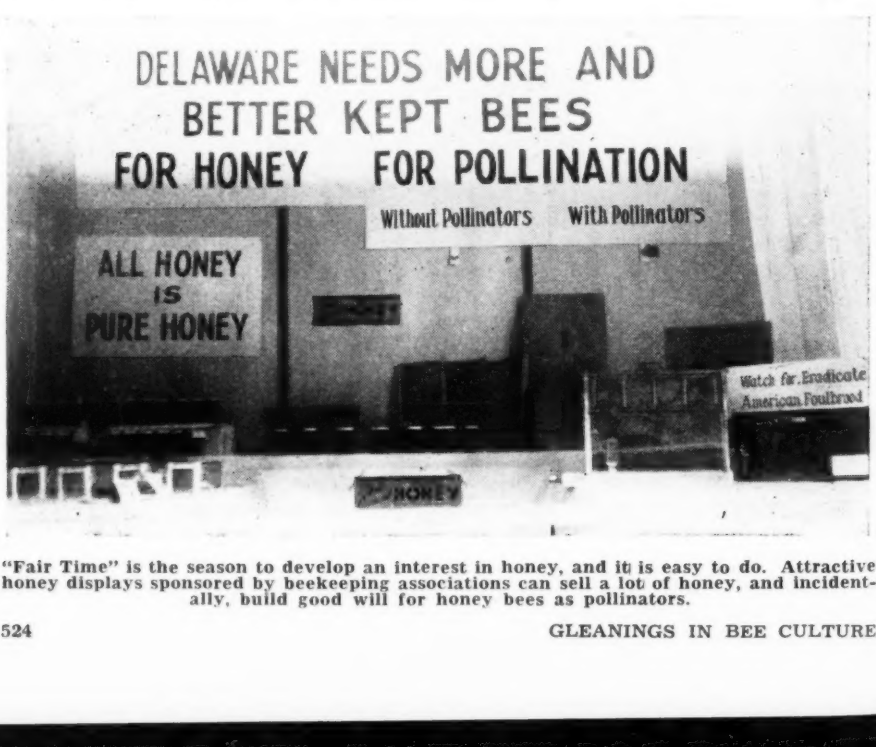
ALMOST ANY beekeeper group contains individuals with special talents or abilities: some who have done a better job of selling than others; some who can produce better comb honey or better queens. Such talent among beekeepers should not be wasted; it should become a part of a well-organized whole in each local unit so that all members may benefit, much on the same order as farm women benefit from the "Women's Home Bureau".

The Women's Home Bureau has a serious purpose built solidly into its program, and it really pays off in most communities. Aside from its sociability which is considered only supplementary to its real purpose, each meeting must have a major and a minor project demonstrated by someone with talent or ability. Members are sent to important demonstrations to bring back information to the group. In addition, outstanding talent is brought in from the outside.

Organized in a similar manner, under competent leadership, beekeeper meetings can also pay off, especially in marketing. In any such organization state associations are in the best position to take the lead because they are better equipped to start an educational program. Any program, so organized, should place most emphasis on subjects that beekeepers need most to move their crops such as advertising, selling, and marketing.

Most beekeepers are eager to solve their problems, but they need real help and leadership on the big problem that has "stumped" so many, and that is, how to move honey at a reasonable profit.

Any program provided for local units that has real "take home" values for selling the honey crop will attract new members and benefit the whole industry. Eventually a membership in a local unit will become so valuable that no beekeeper can afford to be without one. As memberships increase additional benefits to members can be worked out, such as reduced rates for insurance, buying discounts, death benefits, and free information services, all of which would make a membership so necessary that no one will want to give it up.



"Fair Time" is the season to develop an interest in honey, and it is easy to do. Attractive honey displays sponsored by beekeeping associations can sell a lot of honey, and incidentally, build good will for honey bees as pollinators.

Take advantage of your county and state fair like the group have as shown above. Urge your association to participate in these events.

State Meeetings

EVERY STATE meeting could be a miniature fair in which all the best talent of the state could be encouraged to participate. At these meetings the main theme should be sales and how to make them, demonstrated in an objective manner by those who have been most successful in selling honey at a reasonable profit.

Each local unit should be encouraged to contribute the best it has to offer on some important phase of marketing such as: roadside displays, window displays, counter displays, and advertising. Lectures, in the usual manner, can supplement the object lessons to make a well-rounded program. Little space should be given to production since here again, it should be assumed that beekeepers in general know how to produce honey, but few know how to sell it.

From such a meeting beekeepers will take home information they need most, and that is, how to make sales. It will cause many to revise old methods for new ones, and to others it will provide a new incentive for greater effort, both of which in turn will benefit the honey industry.

State Fairs

STATE FAIRS provide a golden opportunity to popularize honey and honey products among the public because at such affairs people congregate by the thousands in a more or less "circus" frame of mind—which means that they spend money freely. They are out for a good time so they are attracted by novelties and points of special interest, but above all they are attracted by something good to eat.

Any exhibit must have appeal, it must be impressive and it must be located in the center of heavy traffic. In fact, it must have such strong appeal that the fair management will want to give the exhibit a place of honor among the more professional demonstrations. Such an exhibit can be worked out.

On the other hand, a small booth containing a few jars of honey and comb around a demonstration hive of bees is probably of little value, and the same exhibit on the outer fringe of the fair may be worthless. People know what honey is, and few will stop to look at honey from curiosity.

Since many people are not familiar

(Continued on page 572)

Adventures in Beekeeping

By Robert D. Oglesby, Middletown, Ohio

Mr. Oglesby's well-kept apiary three miles from his home.

IN THE YEAR of 1945, Mrs. Oglesby, daughter Evelyn, 10, son Bill, 13, and myself lived in Middletown, Ohio, but owned 17 acres three miles south of town on part of the old farm where I had lived as a boy. It had been our hope for several years to build a home there but it seemed as if something was always interfering with our plans. The Second World War with its scarcities and high costs had postponed the event further. "So why not," I thought, "get something started down there which will be to our advantage when we will be able to make the move?"

The usual forms of livestock such as sheep, cattle, and chickens were unsuitable because of the daily care and protection they required. Only one and a half acres were tillable. Truck or specialty gardening under the circumstances was impractical. The rest of the land was sloping, hilly ground. I gave quite a bit of thought to the matter but arrived at no satisfactory conclusion.

Then one day I came across M. G. Kains' book "Five Acres and Independence." In it was a three-page chapter on bees. Evidently they required only a weekly visit during the busy season, less at other times, and were unlikely to be molested by people or animals. This sounded promising and Mrs. Oglesby agreed, so I immediately went to the public library for more information. The material they had confirmed this view.

It was also apparent that a decision should be made as to whether to produce comb honey or extracted honey. Most beekeepers went for extracted. On the other hand, it looked like there would be a more steady market for good comb honey. Its beauty, purity, and taste appealed to me, while its greater difficulty of production only made the anticipated success look more attractive. So I decided to go in for comb honey. I have made many mistakes since in beekeeping but that was not one of them.

All the literature advised starting slowly, with two or three colonies; but that was too slow for me. Surely a person of average intelligence could read up on the subject and start with

at least a dozen. "But why be just average? Study it thoroughly and take on a couple of dozen," I figured.

So I studied during the winter and also began preparing an apiary site for about that number. The apiary site itself, about 125 feet square, was covered mostly by blackberry bushes and poison ivy. It was well shaded by numerous medium-sized trees. I cut out the blackberries with a scythe and burned them and the poison ivy (more than once) with a kerosene weed burner. There were several wet places over there so I decided to set the hives on cinders. One to three wheelbarrow loads made a nice, dry foundation for each. I made them so the hives would be in pairs, each hive about two feet apart in the pair and the pairs five to ten feet apart.

NEXT I found some old house bricks up town and hauled enough of them to place four under each hive, one under each corner. The circulation of air under the bottom board helps to prevent dampness. Occasionally a mouse will nest under the hive, or may even get inside, but I have found this threat can be controlled by strong colonies, small entrances in the winter when the bees are up above, and a little mouse poison under the hives or inside on the bottom board.

Because of ill health a retired mill worker in a nearby village had 18 hives for sale for $190.00. Most of them consisted of a full-depth hive body and a shallow super used as a food chamber. I have found this arrangement satisfactory and use it today. Three or four of his hives were in double full-depth hive bodies. He also threw in some books, a bee veil, a half dozen shallow supers, smoker, wheel wire imbedder, and a lot of free advice. All in all, it was a good deal. He said come over and get the bees any time before the middle of March when they would start getting active again.

SO ABOUT the first of March I took the car and trailer to get the bees, ten miles away. Four trips did the job. What trips! The entrance screens came loose on the way back. The shallow food chamber over one hive came loose too. A few stings getting things under control again. Eventually the last one was lifted from the trailer and placed on its prepared foundation.

As I weighed only 130 pounds then it was pretty heavy lifting, particularly the double full-depth hive bodies. A feeling of satisfaction came over me as I surveyed the 18 hives all in a row. The venture was now really under way.

About the middle of May I noticed one hive had no bees coming out of it. There they were up in the food chamber, clustered, dead. The cupboard was bare. The rest of the hives came through all right. "Not bad, not bad," I thought. In fact, at this time the "bee fever enthusiasm" hit me hard. I had been reading the literature all winter and decided to build up to 50 hives in the coming summer, using the extra equipment. Each new colony was to consist of a full-depth body with a shallow super as a food chamber.

Several methods were suggested to me and I combined two of them. Starting in June I made a new colony by taking from an old hive a queen on a comb of brood plus another comb of sealed brood from another hive. The other eight frames in the new hive were simply frames with foundation in them. Frames with foundation also replaced the combs taken from the old hive. Then as the queenless old hive made queen cells I took one with its comb and placed it in a new hive along with three more combs of brood and bees from another old hive and six frames of foundation only. Frames of foundation also replaced the combs taken from the old hives. By doing this with most of the old hives, I had, at the end of the season, 30 new hives. Perhaps half of them were made up of just the deep super and the rest were a deep super and a shallow super food chamber which had been previously filled above one of the old hives.

So at the end of the first year I found that comb honey could be produced in regular shallow super frames over colonies consisting of a full-depth brood chamber and a shallow super as a food chamber. Also the apiary had grown from 21 to 50 hives.

"Pretty good" I thought with pride, but little did I know of the unpleasant surprises to come.

(to be continued)

Let's Control Wax Moths

By Dr. W. L. Coggshall, Cornell University, Ithaca, New York

This colony might have been assisted earlier by the beekeeper cutting out the tunnels made by the moths through the combs, at the same time additional workers were borrowed from another hive.—Photo by Martin N. Ralph, Vermont.

YOU DON'T stand by while clothes moths eat your best suit, do you? Then why let wax moths destroy your valuable combs?

A serious national pest for years, the Greater Wax Moths annually destroy thousands of dollars' worth of combs. Such losses may cause failure in beekeeping. These insects multiply and work so rapidly that even the most efficient beekeepers may suffer heavy losses of stored combs. In the hands of careless beekeepers, weak colonies or those that die for any reason, may lose all or part of their combs. Stored cappings, burr combs, and scrapings to be rendered later into beeswax are often attacked.

Adult wax moths do no damage themselves, but they deposit hundreds of tiny eggs which hatch in about a week at summer temperatures. If the combs are occupied by bees, the wax moth may deposit her eggs in cracks along the sides of the hive or on the end of the frames. Where there are no bees, she may deposit the eggs on the stored combs and cappings or wax scraps awaiting rendering.

The larvae (worms that burrow through the cells) feed along the midrib of empty combs. They ingest honey, pollen, and wax in filled combs, but it is doubtful whether they actually digest much beeswax. The larvae feed for about a month, often becoming an inch or slightly more in length when food is plentiful. An inactive pupal stage of about 10 days precedes their emergency as adult moths. Lower temperatures greatly increase the length of all stages.

Wax moth larvae prefer dark combs to newly-built light-colored ones, but frames containing sheets of foundation may be damaged if present in the same supers. Considerable silk is spun by the moving larvae so that they are often hidden from view, for honey bees will kill wax moth larvae. An infested

comb is soon reduced to a tangled mass of webbing. The mature larvae usually move to the wooden parts of the hive, gnaw shallow depressions, and attach their silk cocoons.

Suggested Fumigants for Control of Wax Moths

Characteristic	Paradichloro-benzene (PBD)	Calcium cyanide (Cyanogas)	Methyl bromide	Carbon di-sulfide	Sulfur dioxide
Poisonous to humans	No (?)	Extremely	Extremely	Yes	Irritating
Inflammable	No	No	No	Very	No
Explosive	No	No	No	Very	No
Weight compared with air	Much heavier	Slightly lighter	Much heavier	Much heavier	Much heavier
Quantity for five supers	6 table-spoonsful	1 table-spoonsful	Not practical	2 table-spoonsful	Not practical
Quantity for 1000 cu. ft. storage space	5 to 10 pounds	1 to 2 pounds	1 to 2 pounds	10 pounds	4 to 8 pounds

1. **Paradichlorobenzene** (PDB-Moth Crystals) — a crystalline material used in many homes to control clothes moths. It vaporizes slowly in piles of supers, and the odor will repel or kill moths. PDB crystals may be placed on pieces of paper and left underneath the covers that are on top of piles of supers. Honey will absorb the odor of these crystals, so never use it to fumigate comb honey, or place in direct contact with stored cappings or comb material. Unused crystals will dissolve in the wax and spoil it.

2. **Calcium Cyanide** (Cyanogas "A" Dust) — a powdery material which releases hydrocyanic acid gas in contact with air. It should be placed underneath stacks of supers or, in fumigating a room, on newspapers on the floor (damp newspapers speed its action). Cyanogas "G" Dust is granular and slower acting, but may be substituted.

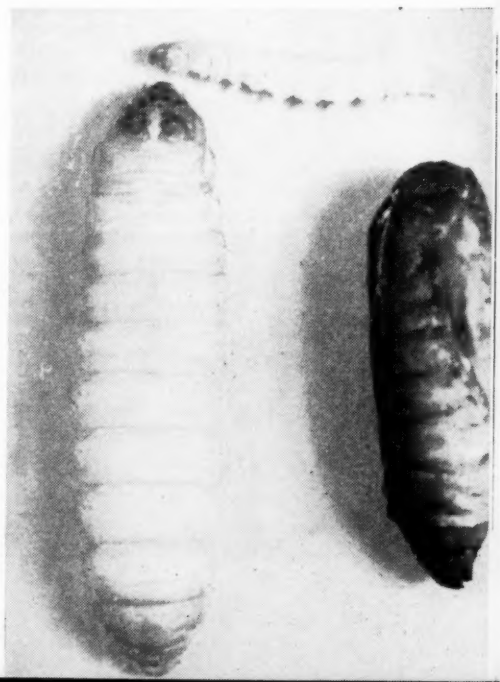
3. **Methyl Bromide** — a gas compressed to liquid form, released by special applicators from one-pound cans, or directly from large cylinders. Do not open cans without using applicator. **This fumigant will kill the eggs of the wax moth.**

4. **Carbon Disulfide** — a liquid that vaporizes on exposure to air; inflammable and explosive. Recommended for comb honey and super. Fumigation.

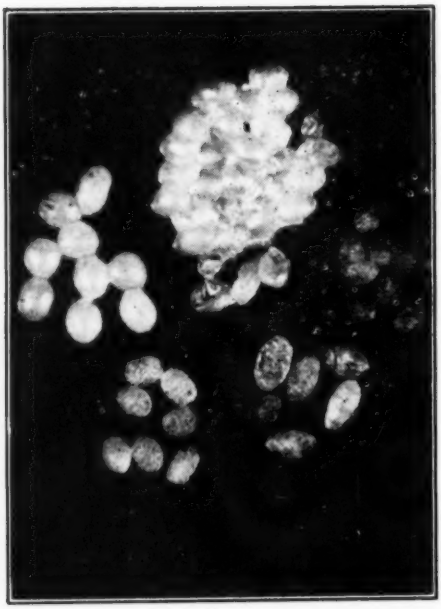
5. **Sulfur Dioxide** — released by igniting sulfur moistened with alcohol, or by spreading sulfur on live coals. Special sulfur candles may also be used. To reduce danger of fire the container holding the burning sulfur should be set on bricks in a large pan containing water. Sulfur fumes will bleach some fabrics and tarnish certain metals. Sulfur dioxide does not appear to cause any flavor damage to comb honey fumigated with it.

Fumigation Tips

1. Length of fumigation with most materials should not be less than 12 and preferably 24 hours.
2. Storage rooms or individual piles of supers should be as air-tight as is practical to prevent escape of gas. A room of stored combs should have the supers piled "criss-cross" to get better distribution of fumigants.
3. Fumigants are more effective at temperatures above 65°F., and may vaporize so slowly at low tempera-



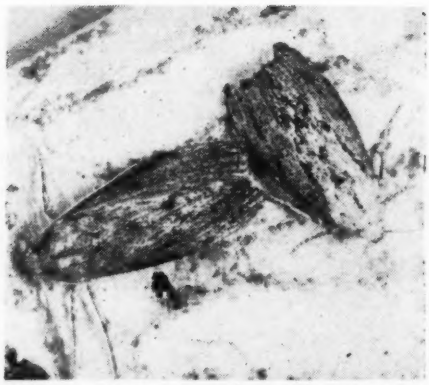
Newly hatched larva of the Greater wax moth shown at right with a more mature larva at lower left lying next to a pupa.—Photo by Richard Maurer, New York.



Eggs of five moths whose larvae are gnown to infest combs of honey bees. Upper left: greater wax motth; top center: lesser wax moth; right center: I ndian meal moth; lower right: Mediterranean flour moth; lower left: almond moth. (Enlarged about seven times.)

tures as to be nearly useless. And high winds reduce their effectiveness.

4. Store supers in cold basements or buildings and reduce the possibility of damage, since wax moths develop very slowly at low temperatures. Less damage may occur if combs are exposed directly to light because wax moths prefer darkness.
5. Inspect supers every two or three weeks and repeat treatment if necessary. Supers at the top of piles are more likely to be infested than those below; combs containing much pollen are most likely to show early infestations.
6. Wax moths other than the kind described here sometimes damage combs but the same fumigants will control them.



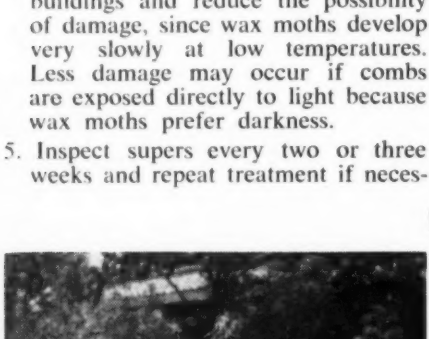
Adult Greater wax moths resting on some cocoons.—Photo by Richard Maurer, N. Y.

WARNING — DANGER

PLACE DANGER SIGNS outside buildings being fumigated. Lock buildings.

ONLY LICENSED FUMIGATORS are legally permitted to do this work in some localities.

CARBON DISULFIDE, Calcium cyanide, and Methyl bromide are deadly poisonous to humans. Use a reputable gas mask if these fumigants are applied inside buildings. Gasses heavier than air may accumulate in basements. After fumigation, painstaking ventilation of buildings for at least 24 hours is necessary.



Another Honey Bee Pest

The Japanese wasp (Vespa mandarna) is a very serious enemy of honey bees in Japan, according to H. Watanabe of Gifu, Japan. "In my country", says the oriental beekeeper, "the Japanese wasp is a greater enemy than foulbrood." A wasp trap, as shown on the entrance to a beehive, was developed by Mr. Watanabe in order to control this serious pest. Perhaps the beekeepers of Cyprus, who are seriously troubled with hornets (Vespa crabro), can make use of this wasp trap.

Beekeeping in Switzerland

By Thed Isler, Uzwil, Switzerland

An apiary in the mountains of Switzerland.

AS FAR as bees are concerned Switzerland is the most densely populated country in the world. About every hundredth Swiss is a beekeeper, making a total of about 40,000. Switzerland is about as large as the State of Maine with plenty of snow and ice-covered mountains. There is at present a total of about 330,000 colonies. Many of the lower regions apparently are overstocked, whereas in the mountain valleys there is still plenty of room for more colonies. These mountain areas produce bigger crops and yield more regularly. Since the growing season starts later there, migratory beekeeping is often done with advantage in the mountains. The average yield per colony is lower than in the United States, the ten years' average being anywhere between 15 to 20 pounds a colony.

The German, French, and Italian parts of Switzerland each have their own beekeeping organization with their individual beekeeping magazine. Every subscriber to one of the three magazines is getting his bees and equipment automatically insured against liability, theft, and willful damage. There is a close cooperation between the three organizations. In the German part of Switzerland many hives are kept in houses and most of these hives open in the rear instead of the top. Many of these houses are picturesque and contain very modern equipment as can be noted from the pictures.

An efficient beekeeping research station near Berne serves mainly to fight bee diseases and as official honey control station. To maintain the high quality of Swiss honey there was created 50 years ago an official control label, which insures the customer of getting absolutely pure and ripe honey. To obtain such labels the honey grower must be a member of the local beekeeping organization to which he has to hand a sample of the honey he has produced. This is being analyzed

XUM

This apiary is in a mountain valley.

A scale hive with automatic recorder.

On the way to the mountains with a load of hives.

and if approved entitles the producer to a certain amount of labels. Any Swiss beekeeper can have honey, bees, or pollen analyzed at the Research station at a reasonable price.

We usually have a long beautiful spring in Switzerland. As a result of the slow growing season the flavors of the Swiss honeys are very fine. They vary from one region to the other. Swiss honeys sell at present for 70 to 80 cents a pound in comparison with, for instance, Florida honey, which is sold for 30 to 40 cents a pound in chain stores.

To activate the sale of Swiss honey we recently have gone new ways. Instead of advertising generally for "Pure Swiss Honey", we provide the jars with specific labels of the region where the honey has been grown and advertise, for instance, as "Honey

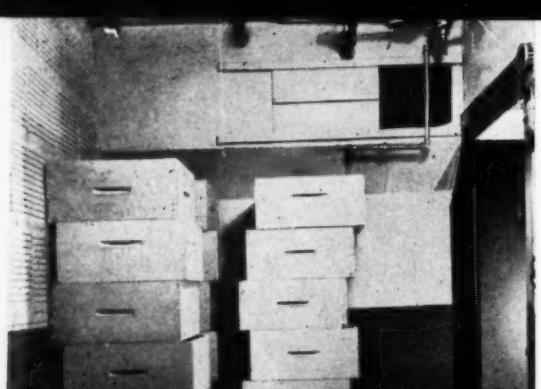
Migratory beekeeping is practiced in the German part of Switzerland.

This is the interior of the apiary house on wheels shown in previous picture.

from Geneva" or "Honey from Lucerne", etc. This and other methods have proved to be very successful.

There are all kinds of beekeepers in Switzerland, some losing and some making money. Somebody has said that beekeeping is the poetry of agriculture and we confess unanimously that we just love this wonderful pastime in our beautiful country.

Mr. F. W. Gravely of New York City and a group of Delaware beekeepers are examining a colony of honey bees near Newark, Delaware. This scene occurred last June during the 12th Annual meeting of the Delaware State Beekeepers' Association.



Removal of Moisture from Honey

By G. F. Townsend, P. W. Burke,
Dept. of Apiculture
Guelph, Ont., Canada

Photos from Dept. of Public Relations Ont. Agr. College, Guelph, Ontario.

Fig. 1. Drying room with staggered supers. Floorboards catch a drip.

THE moisture content of honey is important because of its effect upon keeping quality. Marked variations in water content do occur, and may be primarily attributed to the degree of ripeness of the honey, which to a large extent is related to the prevailing atmospheric humidity both before and after removal of the honey from the hives. Honey is hygroscopic, a term which may be described as the ability to absorb moisture. Thus when honey is permitted to remain too long above bee-escapes, or is stored in a cool damp honey house, it may absorb considerable moisture.

The honey bee gathers nectar with an average water content of 60 percent and within a few days may reduce this to 20 percent or less. To do this, warm air within the hive is forced over the comb surfaces by fanning bees. This same principle may be profitably employed by the beekeeper to reduce the moisture content of his honey.

Water may be most economically removed from honey before it is extracted. To accomplish this warm dry air is driven through stacked supers of honey. The rate of moisture removal will depend upon the dryness of the air and the volume passed through the supers. Air dryness depends, to a large extent, upon the number of degrees the air temperature has been increased. In general, cool air which has had its temperature increased considerably will be able to remove more moisture from the honey combs than air at room temperature which has been warmed through a smaller temperature range.

The efficiency of this system may be increased by permitting the warm moist air to escape and providing a separate intake for fresh air. The warm air temperature should not be above 100°F. A unit which is operating efficiently will remove from 1 to 3 percent moisture in 24 hours. In many cases honey which would grade as Number 3 may be raised to a Number 1 Grade overnight.

Figure 1 illustrates the honey heating room at the Apiculture Department, Ontario Agricultural College. This room is approximately 7'6" by 6'0" and has a capacity for up to 72 supers of honey when they are piled six high. Hot air is supplied from a steam unit heater (similar to an automobile hot water heater).

TO MAKE handling easier each stack of supers is placed on a small floor truck. The floor trucks are simply hive floors with both ends left open and mounted on four sturdy casters. The supers are staggered to allow free passage of air through the combs. When the supers are on floor trucks those farthest from the source of heat are not warmed to quite the

same extent as those closer to the heating panel. This factor may be overcome to a large degree by removing the supers nearest to the source of heat for extracting and moving the others progressively forward. Two sets of doors are provided to facilitate this operation.

The heating unit is situated behind a false wall so that the air is driven to the floor behind the plywood panel. This hot air escapes along an opening at floor level and rises up through the supers of combs. Openings are provided behind the heater for the intake of fresh air from outside or from the adjoining room.

The heater is thermostatically controlled to maintain a temperature of between 90° and 95°F. It is well not to raise the temperature above 100°F. because of the danger of overheating some supers and causing the combs to break down. Moisture laden air is allowed to escape through the opening in the ceiling (Figure 1). Care must be taken when arranging this vent to overcome any tendency for a down draft.

Where floor trucks are not used, a slatted false floor could be used to support the honey supers. Unless baffles are used to slow the flow of air beneath the false floor, hot air will be forced to the back of the room and may overheat the back row of supers. A heating room employing this system is that of Mr. A. C. Walker, of Watford. As shown in Figure 2, hot air is fan-driven through three ducts and is blown under the slatted floor. The fan is a fanning mill blower driven by a ¼ h.p. motor. Hot air is drawn from a furnace in an adjoining room. The Walker heating room is situated at truck floor level to reduce labor and is in continuous line with the extracting room.

Less elaborate methods of removing moisture from honey are often employed, but they do not operate as efficiently. A method commonly employed is to use a stove, such as a Quebec heater, to maintain a temperature of 85° to 95°F. in the extracting room. A large fan is used to force the warm air towards the supers, which should be stacked crisscross. Observations on the

(Continued on page 573)

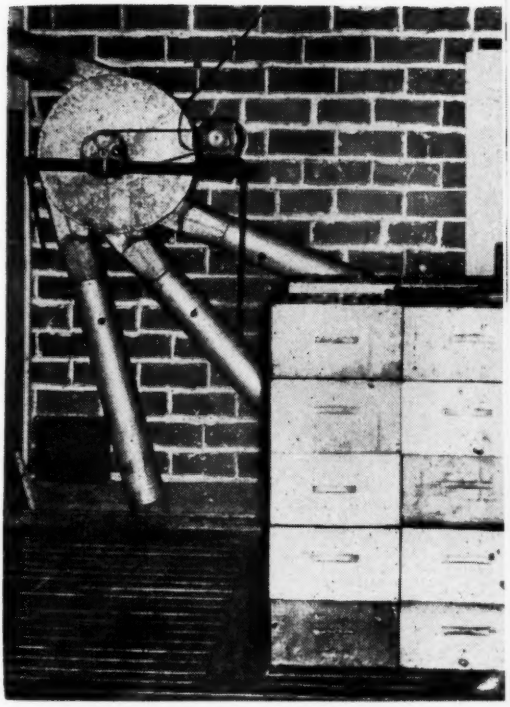
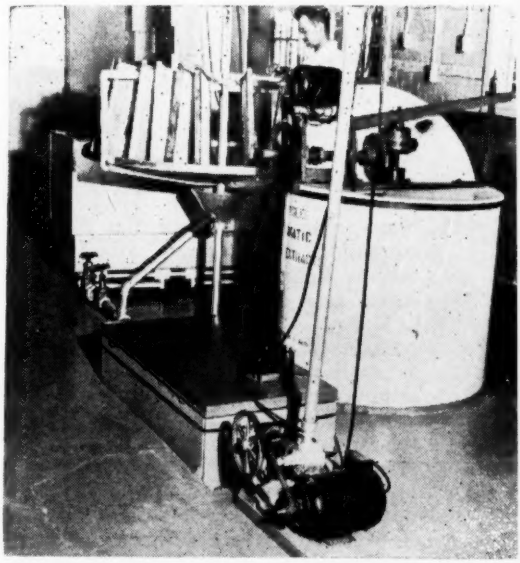
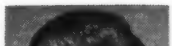


Fig. 2. Drying room of A. C. Walker, Watford, Ontario, showing slatted floor and fan for circulating heat from furnace.



Extracting Room, Ontario Agricultural College (drying room at back)



Honey Wine and Vinegar

By Roger A. Morse, Assistant in Apiculture, Cornell University, Ithaca, N. Y.

(Continued from August Issue)

Considerations in Making Honey Wines and Honey Vinegar

MAKING HONEY wine or honey vinegar is not difficult. Yeasts, which are small one-cell organisms, convert sugar into carbon dioxide and alcohol. The carbon dioxide is given off as a gas while the alcohol gives wine some of its flavor. In making vinegar, the alcohol is converted by a second organism, a bacterium, into acetic acid which gives vinegar its sour taste.

These are the essentials of wine and vinegar production. But good wine or vinegar requires continuous attention, and a manufacturer can always improve his product.

The considerations listed in this paper are a composite of the known literature and material gleaned from a recent study. Each component of the wine and method of manufacture is considered separately.

Honey: Honey lends itself best to the manufacture of a sweet wine. Such a wine is not one to be used in large quantities, but rather when flavor, body, and bouquet are to be considered. For a dry wine, a light honey will produce a better flavor than those which are dark in color and strong in flavor. A dark or strong-flavored honey may be used for the first fermentation of a sweet wine, and a milder, lighter, perhaps filtered honey added as a final sweetening agent.

Honey is a saturated sugar solution containing about 80 percent solids and as such cannot be fermented without dilution. Two pounds of honey and half a gallon of water will result in 22 to 26 percent sugar solution, and if fermented completely, will produce 10 to 12 percent alcohol. For a dry wine, a 22 percent sugar solution is most desirable. The exact weight of honey to be used cannot be given because honeys vary in the amount of moisture they contain. In a sweet wine, the above amount of honey may be used and 5 to 15 percent honey added as a final sweetening agent.

Water: The water used to dilute the honey must be pure and free from off flavors. Free-flowing spring water would be the first choice, and well water the second. Many of the commercial producers of honey wine take great care in selecting the water they use for dilution.

Fruit Juices: Honey wines made with fruit juices are, on the average, better in flavor, body, and bouquet, and a clearer product is usually produced in a shorter period of time. The amount of fruit juice to be used varies with the particular fruit. On a small scale, 25 to 50 percent juice by volume will give good results; 50 percent is optimum. Lesser amounts than 50 percent are used commercially, however.

The following factors are to be considered when determining the amount of juice to be used. Strong flavored juices, as well as those of high acid content, should be used in smaller quantities. Darker-colored juices may be used in smaller quantities and still give a deep, rich color. Fresh juices produce the best flavor. But on a small scale, persons may wish to experiment with some of the frozen concentrated juices available on the market.

Pasteurization Prior to Fermentation: Because of the high osmotic pressure of honey, it will not support the growth of bacteria or wine yeasts. Furthermore, the yeasts present in honey (the osmophilic yeasts) will not grow when honey is diluted, and are therefore not a factor. For these reasons the honey need not be heated, except that liquid and not crystallized honey should be used in making up the honey-water mixture for fermentation.

When any molds are noticeable on

the surface of the honey, it would be well to pasteurize prior to use. If fruit juices are used, they should be pasturized to kill the undesirable organisms. However, many fruits when properly ripened usually have on their surfaces desirable yeasts that may be used to start the fermentation. The grape is an excellent example of this in some parts of the world.

Yeast Food: Honey does not contain sufficient nutrient material to support a good fermentation. It is especially important during the first few days that the yeasts make a good growth. If fruit juice is added to the wine, there is no need to add other materials. Otherwise, the addition of four grams of ammonium phosphate and four grams of urea to each gallon of honey-water used will stimulate yeast growth sufficiently.

Acid: Honey wines made without the addition of acid are flat and lack flavor. From 0.2 to 0.6 percent of either malic, tartaric or citric acids should be added to the honey-water mixture prior to fermentation. The lighter honeys will require the addition of more acid than the darker honeys. If fresh fruit juice is used, little, and in some cases no acid is necessary. When using only honey, eight to ten grams per gallon of honey-water of any one of the above acids will be sufficient to improve flavor.

Yeasts: The type of yeast used is an important factor in determining the flavor of a wine or vinegar. In many cases, beekeepers have reported using bread yeast to conduct the first fermentation. This is satisfactory insofar as the production of alcohol is concerned, but leaves much to be desired from the standpoint of flavor. Numerous yeasts and bacteria used in the production of wine and vinegar are available and two of the companies offering these for sale are listed below:

Francois and Cie, Institut La Claire, Dijon, France.
Berkeley Yeast Laboratory, 3167 College Avenue, Berkeley, Calif.

Yeast Starter: It is important to have a sufficient number of yeast cells present so that the fermentation will begin as soon as possible. The yeasts should first be introduced into a small clean jug containing some of the honey-water mixture. As soon as this is fermenting well it is added to a second, larger, jug and so on until enough is present to add to the final batch of honey and water. Ten percent starter by volume will give the best results.

Fermentation Vats: Aging is important in the manufacture of honey wine as well as other wines, therefore the fermentation should be conducted in wooden casks or kegs. (Wooden casks aid in aging by allowing oxygen to diffuse into the new wine.) The size of these will depend upon the amount of material to be fermented. For small operations, used barrels are not advisable. New oak or redwood barrels are the best and these should be thoroughly cleaned before use.

After the first fermentation is complete, the new wine should be left in wood for further aging. The aging process involves a combination of oxygen with alcohol and acids to produce what are called esters. Without these esters, wines lack bouquet and are flat in taste. Therefore flavor is not fully developed in wines produced in crocks or glass jugs.

Fermentation Valves: Fermentation valves should be used to allow carbon dioxide to escape through water. To make a fermentation valve, choose a cork which will fit tightly in the hole in the barrel or jug. Through this bore a small hole and insert a piece of glass or rubber tubing. Put the other end of this tubing into a glass of water. With a good fermentation valve no bacteria can work their way into the fermentation vat.

Temperature and Time of Fermentation: To get the best flavor and bouquet, an optimum fermentation temperature of 60 to 70 degrees F. is best. The honey-water mixture should contain sufficient nutritive material so that the violent foaming, indicative of the first fermentation, is complete within 30 days. A longer period than this would increase the possibility of bacterial spoilage.

Fullness of the Fermentation Vats: During the first fermentation, the casks or kegs should be so filled as to leave a space from 6 to 12 inches at the top, depending upon the size of the barrel. This space is left so that the

foam that is formed will not flow out of the barrel.

Any honey on the outside of a fermentation barrel is attractive to undesirable organisms and increase the danger of contamination. During the second fermentation, when about one half of one percent alcohol and very little carbon dioxide are produced, the barrel should be completely full. Again, when air is excluded, the possibility of contamination is greatly reduced.

Clarification: Honey wines are more difficult to clear than honey fruit wines. At the end of the first fermentation the wine will be very cloudy, and it should be siphoned into a new barrel. None of the settled material or dead yeast cells at the bottom of the barrel should be removed or stirred. At the end of the second fermentation, which requires from one to two months, this process should be repeated. At the end of this second period, some of the honey wines and usually all of the honey fruit wines will be clear.

In commercial production, filtration may be used to clear up any cloudy wine. For smaller operations, racking or siphoning from one barrel to another should be repeated until the product is clear.

Aging: As with grape and other fruit wines, the final product improves with age. Numerous persons have stated that honey wine is best when it is aged up to two years. Inasmuch as oxygen is required for aging, glass inhibits the action. Fully aged wines as determined by the taste test, should be bottled for any long period of storage.

Honey Vinegar

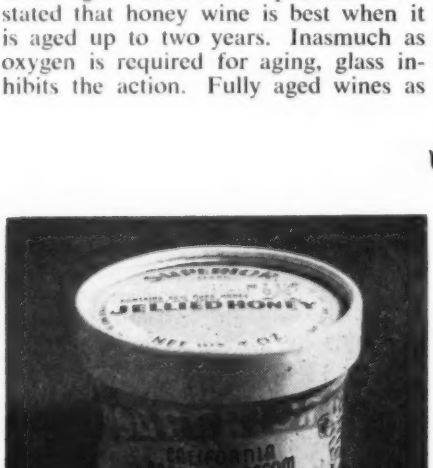
THE PROCEDURE for making honey vinegar differs slightly from the production of honey wine. Less sugar is needed and about one and a third pounds of honey per gallon of water will produce sufficient alcohol for the acetic acid fermentation.

The amount of nutrients added are the same as for wine, except that if a juice is used only about 25 percent by volume should be added.

At the end of the alcoholic fermentation, or after about a month, the bacteria culture, or "mother of vinegar", should be added to the barrel. At the fermentation temperature of 60 to 75 degrees F., the vinegar should be formed in six to nine months. It is then siphoned from the barrel and stored in clean containers.

Honey wine and honey vinegar are two honey by-products that can be made and used by the beekeeper. Their manufacture is simple, but requires attention to the details. Commercially, there appears to be little future for honey vinegar. But honey wine's colorful history provides a good selling point for the producer. Further fine flavor and bouquet develop in a good honey wine and these cannot be duplicated with the fermentation of any other of nature's products.

Morse, Roger A.
1953 (Feb.) The Fermentation of Diluted Honey. Unpublished thesis. Cornell University, Ithaca, New York.



No Jellied Sales

Sales don't jell for the Superior Honey Company of California because they are always on the alert for new outlets for honey. They recently developed a jellied honey, made from 93 percent orange blossom honey (U. S. Fancy Extra Light Amber), fruit acid and pectin, and it is packaged in the container shown.

From a Bunch of Bananas

By Mrs. Benj. Nielsen
Aurora, Nebraska

Baked bananas with foamy orange sauce.—Photo Courtesy Kellogg Company.

LONG, LONG AGO the message carried in the old, old song, "Yes, We Have no Bananas," might have been true, but today with modern miracles of transportation and distribution, we have this golden versatile fruit with us the year 'round. And what we can do with it when we team it up with Nature's finest sweet!

Tasty little tidbits these, made with 2 large bananas, 1 cup lemon juice, 2 tablespoonfuls honey, 3 ounces cream cheese, and ⅓ cup finely chopped nutmeats. Peel bananas and cut cross or slant wise into 1-inch pieces. Marinate for 1 hour in lemon juice and honey which have been thoroughly blended. Drain. Cover with cream cheese and roll in nutmeats.

Baked Bananas with Foamy Orange Sauce

Three slightly green bananas, ⅓ cup honey, and 3 cups cornflakes. Peel bananas; split in halves lengthwise and crosswise. Warm honey. Dip bananas into honey then roll in cornflakes which have been crushed into fine crumbs. Bake in moderate oven, 375 degrees F., about 15 minutes or until soft. Serve with

Foamy Orange Sauce

Two egg yolks, slightly beaten, 3 tablespoons honey, ¼ cup orange juice, 1 teaspoon grated orange rind (optional) 2 tablespoons lemon juice, and 2 egg whites, stiffly beaten.

Combine egg yolks with honey in top of double boiler; add orange juice, rind and lemon juice. Cook mixture over hot water until slightly thickened, stirring constantly. Remove from heat; cool. Fold in stiffly beaten egg whites.

Banana and Apple Brown Betty

One-half cup honey, ¼ teaspoon salt, ½ teaspoon cinnamon, 2 apples, pared and sliced, 3 bananas, peeled and sliced, 3 cups small bread cubes, and 3 tablespoons butter.

Blend honey, salt, and cinnamon together. Combine with sliced apples and bananas. Brown bread cubes in butter. Fill buttered baking dish with alternate layers of bread cubes and fruit using bread for top and bottom layers. Cover dish and bake in moderate oven, 375 degrees F., 30 minutes. Remove cover and bake 15 minutes longer, or until apples are tender. Serves 6.

Banana Tapioca Cream

Two tablespoons quick-cooking tapioca, ¼ teaspoon salt, ¼ cup honey, 2 cups scalded milk, 1 egg, separated, 1 teaspoon grated orange rind (optional), and 1 cup sliced or diced ripe bananas.

Combine tapioca, salt, and honey. Add milk and cook over boiling water about 5 minutes or until tapioca is clear, stirring frequently. Beat egg yolk and add a small amount of the tapioca mixture, stirring constantly. Then pour back into remaining hot mixture, beating constantly. Fold in beaten egg white. Cool. Add orange rind and bananas. Chill. Serves 6.

Honey Banana Muffins

One cup sifted flour, ½ teaspoon salt, ¼ teaspoon soda, 1 teaspoon baking powder, 2 tablespoons honey, 1 egg, well beaten, 2 tablespoons melted shortening, 2 tablespoons sour milk, and 1 cup thinly sliced bananas.

Sift together the flour, salt, soda, and baking powder. Combine honey, egg, shortening, milk, and sliced bananas. Stir until banana is broken into small pieces. Combine liquid and dry ingredients, stirring only enough to dampen all the flour. Bake in well-greased muffin pans in a moderately hot oven, 400 degrees F., 30 to 35 minutes. Makes 8 small muffins.

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Live and Learn

By Propolis Pete

WHOOP-DE-DO and holler, fellers, I'm going to get some comb honey! Last month I told you that it might be along around grade ten, but that was wrong. This stuff can be graded, but I am afraid that the verdict will be "unsalable".

When my pet comb honey colony went sour on me in June, I left one super of sections on it, and took the other two and put them on other colonies that I thought might do the trick. The original hive still hasn't done anything, but they have filled the rest of the hive with honey. They have crammed it in every possible place excepting the section boxes. You just simply can't get into the hive proper because of the burr comb in every empty space. It seems to me that I have heard some place that bees respect a "bee space". The second colony is doing the same to some extent, but the third is going to give me 24 of those little wooden boxes filled with comb honey.

This particular super was put on under an extracting super, after the bees were well started in the extracting super. The first thing the bees did was to varnish the wood completely, with propolis and then they fastened the foundation in place. After that they began to draw the foundation, starting at the sides and working in to the middle, just as they were supposed to do. They have it pretty well capped right now, and long before you read this it will have been taken from them. The cappings have the most beautiful shade of gray that you can imagine, from the darned bees wiping their dirty feet on it.

But I have produced comb honey. No more can it be said that I can't. I think that I have learned some tricks that will help me next year. It will be a good thing too, because there is a demand for comb honey here, and I like it myself better than extracted. Of course there are some uses for honey that require separation from the comb, but there is no treat like a hot biscuit, plenty of butter and a generous gob of comb honey. Or even a spoonful just worked around in your mouth while you press the honey out with your tongue. I always make it a point to buy me some comb honey every year, regardless of the size of my crop of extracted.

The only thing that I don't like about beekeeping is the work of extracting. I don't care how clean you are, or how careful you are, it is a hot, sticky, back-breaking and thoroughly unpleasant mess. True enough, it is a thrill to see the liquid gold pouring out of the gate in the extractor, but unless your production is big enough to warrant a honey pump and other equipment, it is hard work to lift up those pails of honey to dump them into the settling tank.

I HAVE every opening in the extracting room screened, but still robber bees find their way in and fly around in front of my nose. And, I don't know whether or not you have noticed it, but the ones that do get in will fill themselves up, fly to the screen and pass it on to comrades on the outside. I have bee escapes on each screen, but invariably some bees find their way back in and tell their neighbors how to do it too, so every once in a while I have to stop while the room is cleared. The bees inside never offer to sting, but sooner or later you are going to pick up a comb, or some piece of apparatus that has a bee on it, and she will let you know that she is there.

Of course, you can do the extracting at night, after leaving the windows closed all day, but I am not too fond of that. Just about when you are ready to drop, it becomes necessary to clean up the mess. And if you have more than you can do in one night, you have the same mess staring you in the face all the next day. Furthermore, in this damp climate, honey picks up moisture too fast for comfort, and I hate to leave it unbottled for any length of time. Last year my honey was thrown out of the county contest because it was a couple of tenths of one percent over the maximum set by the judge for water content. Not enough to cause it to ferment or spoil, but just a shade over what the judge

(Continued on page 573)

Bee Facts

(A Digest of Scientific Research)

What about Fermented Honey?

Have you ever wondered what causes fermentation in honey? Well, while all of the facts are not known, the following are proven causes:

1. Fermentation is caused by the activity of sugar tolerant yeasts.
2. These yeasts are commonly found in large or small numbers in all honeys.
3. Moisture content of honey is an important factor in fermentation.

It is difficult to say that a sealed comb of honey is ripe because it has been found that in freshly sealed honey the moisture content varies widely between different cells filled during the same honey flow. Research at Louisiana State University revealed that the average moisture content of honey stored during the spring was less than that stored during the summer.

C. S. McCleskey and E. Oertel, who completed the research previously mentioned, counted the number of yeasts in honey taken from the blisters and from the cells with swollen caps. They found that the number of yeasts varied between 5 million and 24 millions per milliliter.

Sealed honey is not all equally ripe, if the moisture content is to be used as criterion according to McCleskey and Oertel. They concluded that the fermentation of honey in the comb in the colony may be attributed to the high moisture content of the honey when sealed, the high yeast infection, and the high outdoor temperature.

Reference: McCleskey, C. S. and E. Oertel. J. Econ. Ent. 43:(4):538. Nov. 1950.

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Honey Ice Cream

Light and amber-colored honeys added flavors that were more acceptable generally than darker honeys such as buckwheat, sage, and basswood, reported P. S. Lucas, dairy husbandry specialist. It was to be expected, he added, that when honey was used in increasing amounts to replace sugar any unfavorable flavor due to the honey used would become increasingly noticeable.

"When honey replaced no more than 20 to 30 percent of the sucrose normally used, the effects of the darker varieties were much less apparent. In cases where 30 percent of sugar was replaced by light-colored honey it was possible to use vanilla with no unfavorable comment. The same was true for other commonly used flavors such as chocolate, candy, and fruit flavors. The flavor given by honey added to the mix began to become noticeable when the sugar replacement reached 10 percent and increased in intensity until the replacement reached 100 percent."

Honey is composed primarily of dextrose and levulose. Both materials in solution at the same concentration as sucrose are responsible for lowered freezing points. While sucrose solutions freeze at a lower point than water, either dextrose or levulose solutions will freeze at a lower point than sucrose solutions at the same strength.

Lucas goes on to say that it operates in the same manner by lowering the freezing point of ice cream mixes containing honey. The greater the percentage of honey used the greater the lowering of the freezing point. If sucrose were used as the sole sweetener it alone would lower the freezing point about two degrees F.; honey would lower it, if used alone, about five degrees F.

"This is not so important in the freezing process," Lucas points out. "But it is more important in the holding of honey ice cream in proper condition in the cabinet for dipping. Honey used in smaller amounts with sucrose has a lesser effect on freezing point."

Reference: Lucas, P. S. Honey Ice Cream. Michigan Quarterly Bulletin. Vol. 27, No. 4.

Asked & Answered

Correct Bee Space Around Frames

Question: I am going to make some hives and frames. Please tell me how long the end bars on my frames should be for 9½" depth bodies. How much space above top bars? How much space below bottom bars?—Idaho.

Answer: Since you plan to make some frames to fit hives 9½" deep, the end bars of the frames should be 9⅛". There should be ¼" space above the top bars and 1/16" below the bottom bars of these frames. When one hive body or super is set on top of another, this leaves the correct bee space, namely 5/16" between the two sets of frames. It is quite essential that proper bee space be maintained around the frames so that the bees can move easily.

* * *

Building Up Nuclei After Close of Honey Flow

Question: I made 20 three-frame nuclei at the close of the honey flow. Can I cause them to draw foundation and build up to full colonies for winter by feeding sugar syrup?—West Virginia.

Answer: Yes. The nuclei can be built up by feeding if a sufficient amount is fed and the feeding is continued long enough. They should be fed enough every day or two so that they will gain slightly in stores. This will require a surprisingly large amount of syrup as the colonies increase in strength. If feeding is discontinued later, after the combs are all built, the colonies should each be given two combs of honey if there is no fall honey flow to tide them over until time to feed for winter or they should be fed about 20 pounds of sugar syrup. If there is a fall honey flow feeding can be discontinued as soon as the fall flow begins.

* * *

Amount of Honey in Brood-Chambers at Close of Season

Question: Can the bees store enough honey for winter in the brood-chamber alone or is it better to leave them in the shallow extracting super of honey in addition to that in the brood-chamber?—Tex.

Answer: This depends upon whether or not there is a fall honey flow and also upon whether comb honey or extracted honey is produced. Where there is no fall honey flow there is not, as a rule, enough honey left in the brood-chamber for winter stores. If extracted honey is being produced and the supers are all taken off at the close of an early honey flow, colonies are sometimes reduced to the verge of starvation in late summer so that they are greatly reduced in strength for winter. Even in comb-honey production some colonies put so much of the honey into the supers that there is not enough left for late summer and fall, to say nothing of winter stores. The character of the honey flow also influences the amount of honey stored in the brood-chamber. If the honey flow ceases abruptly when the bees have large quantities of brood there will be almost no honey in the brood-chamber; but if the honey flow tapers off toward the close, the bees will begin to crowd the queen with honey and may store a considerable amount in the brood-chamber. In general, when producing extracted honey it is not safe to depend upon the bees having sufficient honey if all of the supers are taken off at the close of the honey flow. Even if an unusually large brood-chamber is used, there will be but little honey stored below except in locations where the honey flow tapers off at its close. For this reason, in some localities, it is necessary either to feed the bees heavily or leave an upper story containing considerable honey for their late summer and fall use. In such localities the food chamber is quite advantageous.

* * *

Eliminating Fall Work and Spring Work with Bees

Question: I go to school from September until June, so can not give proper attention to my bees during the fall and spring. How can I continue keeping bees under such conditions? This is a problem which many high school boys who keep bees meet in my community.—Utah.

Answer: You can no doubt work out a plan by which you will be able to do all or nearly all the work with the bees during the time you are out of school. By leaving each colony an ample amount of honey in the fall they should need practically no attention until the beginning of the honey flow the next season, so far as their food supply is concerned. In addition to an abundance of honey the bees will need

plenty of room for brood-rearing in the spring. These two requirements can be supplied before school begins in the fall by giving a second story fairly well filled with honey and leaving it on the hive during the winter and spring. As the bees consume the honey from the second story in the spring, the queen can expand the brood nest into it. In some cases it may be necessary to give a third story before school closes, but if your apiary is not too far away you may be able to visit it in May and give a third story to all colonies that appear to need it. Whatever winter protection is necessary in your locality can be given before school begins and left until school closes. In other words, it is possible to provide the necessary requirements of the colonies far in advance of their needs, thus giving them their winter stores and their spring stores as well as winter protection in the fall, and at the same time giving them their extra room for spring brood-rearing. By such a plan the bees can be left to themselves for nine or ten months in some localities without in any way reducing the yield of honey.

* * *

Odor from Hives in the Fall

Question: There is a peculiar odor from my hives every fall beginning from September 10 to September 25 and lasting two or three weeks. What causes it?—Ind.

Answer: The odor is no doubt from the evaporation of nectar gathered from goldenrod or fall flowers. In many localities the odor coming from the hives during the process of ripening nectar from fall flowers or goldenrod is quite strong. By noting what the bees are working on you may be able to determine which plant is furnishing this nectar. As a rule, after the nectar has ripened this odor disappears and the honey is not necessarily strong in flavor.

* * *

Dividing Colonies in the Fall

Question: Would it work well to divide each full colony this fall into three, giving each division a queen and placing all in one ten-frame hive separated with partitions, then winter these colonies in the cellar? In the spring I would put each nucleus into a separate hive and give combs of sealed honey. Would these nuclei build up in time for our honey flow which comes about June 5?—Michigan.

Answer: While such a plan might work out well if the colonies were exceedingly strong in young bees in the fall, could be wintered perfectly, and conditions were always favorable for building up in the spring, the plan in general is not to be recommended. In fact, instead of dividing colonies in the fall it is often better to unite colonies that are not up to full strength in order that the winter cluster shall be large enough to winter advantageously. Unless the nuclei are composed chiefly of young bees in the fall, and come through the winter in perfect condition, they would become too weak in the spring to build up rapidly during the usual adverse weather conditions in the North.

* * *

Bees Fail to Work on Goldenrod

Question: Why is it that bees do not work on goldenrod in this locality? I read of beekeepers in other states obtaining honey from this source.—Tennessee.

Answer: Like other honey plants, goldenrod does not secrete nectar everywhere it grows. Soil and climatic conditions have much to do with nectar secretion, each plant having its own peculiar requirements for best results in the amount of nectar. Goldenrod is reported as a good yielder in the New England states and as far south along the Atlantic Coast as Virginia, but in some localities it yields but little if any nectar. Again, some seasons are unfavorable for nectar secretion even when the flowers are thrifty and abundant, while other seasons are so favorable that, even though the flowers are not so abundant, they furnish large quantities of nectar. Where a recognized honey plant fails to yield year after year, it is probably because either the soil or the temperature is not entirely suitable.

Our Cover Picture

Bees Disrupt Traffic

Herschel Petty, Big Spring, Texas, garageman, removes a swarm of bees from a traffic signal in Big Spring on May 10. Traffic on U. S. Highway 80, which passes the light, was moved with caution through the intersection after the bees covered one of the red lights of the signal. — Wide World Photos.

Editorials

October Honey Promotion The honey industry must get behind the October honey promotion wholeheartedly. We have a real opportunity to sell honey to the American Public this fall. It has been estimated that there are some 500,000 beekeepers in the United States. If even half of these could be reached and somehow inspired into actively and enthusiastically helping to promote honey in their communities during September and October, the results would be astounding.

Starting a year ago last summer the Food Products Division of the United States Department of Agriculture began promoting the use of honey at the "point-of-sale level." This was done in cooperation with the American Beekeeping Federation and the American Honey Institute. For three months last year this organization of the Department of Agriculture pushed honey through their regional offices scattered over the country. Work was done largely with associations such as the hotel associations, the Wholesale Grocers' Association, and various large chain food stores.

Several thousand store displays were set up over the country during the October Honey Week and a great deal was written in the trade journals of these organizations. As a result, the industry received the greatest promotion ever at the "point-of-sale level." Through the active work last year of Chairman Roy Grout of the Federation Marketing Committee, many of the state and county beekeepers' associations took an active part in helping the campaign at the local level, but still, much was to be desired.

Fortunately for the industry, the Food Products' Division is again undertaking to promote honey during September and October to culminate the program in the American Honey Institute's October Honey Week of October 26 to 31. The Federation Marketing Committee under this year's chairman, Joaquin Watkins, are working with government men and associations and they need your help. State and county beekeepers' associations can do much to tie in with this program as well as the individual beekeeper, whether he sells his own honey or not.

Government men in the Food Products' Division, do not know whether the program will be authorized another year. Much will depend upon the honey industry's own initiative. They are willing to start the program but are frank to say that it is up to the industry to carry on with the honey promotional work once the way has been shown.

We have the organizations to do this job; the American Honey Institute, the American Beekeeping Federation and the correlating body, the Honey Industry Council. The industry still lacks money but has considerable man power, and with improving direction of effort we should continue to make progress.

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Dr. Eva Crane Pays Us a Visit Some scientists live in so exclusive an environment that they find it difficult to be interested in common people and in practical things. Not so Dr. Eva Crane of England, who, during her tour of the United States, spent August 9 and 10 in Medina, the guest of a greatly impressed Gleanings staff.

Dr. Crane has a Master of Science degree in mathematics and a Doctor of Philosophy degree in physics, but she is very human and has a delightful sense of humor.

The English editor of the BEE WORLD, who is also the Director of the Bee Research Association in England, made many friends during her tour. Her knowledge of the practical

as well as scientific beekeeping in America is little short of remarkable. She is a real ambassador of good will between two English-speaking beekeeping countries.

A happy return and a successful career to the well-prepared and well-educated editor of the BEE WORLD.

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Tennessee Helps Beginners A 47-page bulletin, "A Bee Book for Bee-ginners" is now available to all of the folks in Tennessee who are interested in keeping bees. Leslie H. Little, State Apiarist, and L. D. Wallace are to be commended for their work in the preparation of this well-illustrated publication.

The publication is written in a very easy reading style that simplifies all of the beekeeping terms. Here is a fact that is often neglected when veteran beekeepers write anything on bees—they take for granted that beekeeping terms are understood by everyone.

The authors go into every little detail of bee handling that usually faces beginners—from using the bee smoker to what the beginner must do when their bees arrive. In reading the section on enemies of the honey bee, your Editors were surprised to learn that bears are troublesome to apiaries in East Tennessee. But Little and Wallace have the answer for that one, too.

It's very simple for beekeepers to get this publication, so why not take advantage of it? Write to the Publications Section, Tennessee Department of Agriculture, Nashville 3, Tennessee.

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Crimson Clover in Texas If you are wondering how many colonies of bees are needed to efficiently pollinate crimson clover, here is your answer. According to N. Weaver and R. N. Ford, entomologists at the Texas Agricultural Experiment Station, only one colony of bees per acre should be sufficient to do the job. But there is an exception, this recommendation holds only when other plants do not compete for the bees' visits.

In their experiments bees were excluded from five plots of crimson clover, allowed to work five other plots freely and forced to work on five remaining plots. The results showed that with adequate numbers of honey bees about four times as much seed could be expected as from clover with no honey bees. This is important information that beekeepers should point out to seed growers who fail to recognize the value of honey bees.

The Texas workers noticed that the blossoms withered very quickly after being pollinated, but remained open for about two weeks when they are not pollinated. Many open blossoms on each flower head can give a good indication that there are no pollinating insects in the field.

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More on Language of the Bees Beekeepers have been very lucky of late in getting a lot of free advertising. And more of it is here with a new article on bee behavior in the July issue of SCIENTIFIC AMERICAN.

Written by Hans Kalmus, this article is a sequel to a previous story on the work by Von Frisch that appeared in the same journal in 1948. The illustrations are of particular interest, especially the "Metabolic Clock" of the honey bees. Here the author shows the effect that carbon dioxide has on the metabolism of honey bees.

Not to be outdone is ESQUIRE magazine, who in their May issue, published a novelette on Cyprian bees called "Bees of Kiliatos" by Gordon Cotter. The author has written an interesting mystery which also brings the message of the important role of honey bees in pollination.

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Free Bakery Advertising Mr. Al. Tennenhouse, owner of the Prairie View Honey Company in Detroit, Michigan, recently brought a new honey advertising medium to the attention of your editor. A 16-page booklet called "There's Money ....in Honey....When there's Honey in your Dough", was prepared by the Bakery Research Department of Proctor and Gamble and Co. This booklet is a collection of 17 interesting ways to use honey in the bake shop.

According to Mr. Tennenhouse, copies of this publication are available free to honey packers who supply the bakery trade with honey. We want to point out that this booklet is of

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little value to the housewife because the recipe ingredients are measured in very large quantities.

Besides offering recipes, the Proctor and Gamble specialists point out the different sources of honey, how to select and use honey, the use of honey in yeast products, and the value of honey in baked products.

Beekeepers can advertise the value of honey to bakers but it will hardly have the effect of this Proctor and Gamble publication. Bakers will be more likely to believe facts about honey when other bakers say that honey helps retain moisture, improves crust color, and adds flavor and appetite appeal.

We urge all honey packers to write to the Bakery Research Dept. of the Proctor and Gamble Company, Gynne Building, Cincinnati 1, Ohio, and ask for this bulletin.

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Texans Look for New Honey Markets The Texas Beekeepers' Association and the beekeeping specialists at the Texas Agricultural Experiment Station are to be commended on their efforts to develop new markets for their honey. While the results of their "Honey Feeding Experiment" is not too encouraging, their efforts are still worthy of wide attention. Perhaps other beekeeping associations will also try to encourage more research at their state experiment stations.

The following is taken from the May 1953 News Letter of the Texas Beekeepers' Association:

"This experiment conducted by the Department of Animal Husbandry in which off-grade honey was compared with molasses in mixed feed was completed the last week of May. While details and final results, gains in weight, etc., are not yet available, indications pointed to very little difference in weights of the two groups of steers. Six Hereford and Aberdeen-Angus were in each group.

"Members of the Association made this experiment possible by furnishing off-grade honey needed to supplement that provided by the Department of Entomology.

"It is believed that the deciding factor in recommendations that may be made will be based largely on the price differential between the blackstrap molasses in tank-car lots and the cost that would probably be charged for honey.

"Another factor that may enter into the consideration of the results is the greater attractiveness to flies of the feed which contained honey."

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We Like Free Advertising for Honey Thousands of dollars of free honey advertising resulted when Sir Edmund P. Hillary climbed to the top of Mount Everest on May 29. Overnight the world learned that this adventurer was a beekeeper and that honey was one source of his energy. It would take a lot of paid advertising to achieve the same effect as this testimonial.

Added to this free advertising comes a lot more through the courtesy of LIFE magazine. They recently carried a story about Parry O'Brien of the University of Southern California who is the Olympic shot-put champion. Not a bit of Parry's life was missed, including the fact that he uses honey because it is such a fast source of energy. A photo of the shot-put champion shows him gulping some honey just before his throw that broke the world record. Could you expect better advertising than this?

And topping this whole series is a two-page spread in the magazine section of the ST. LOUIS DISPATCH for Sunday, July 5, 1953. Oliver F. Fink and Sam Caldwell pooled their efforts to prepare a well written and illustrated article called "The Important Bee". Eleven pictures help to tell the story of the role of the bee in honey production and pollination.

While we are lucky to have all of this free publicity, our regular advertising through the American Honey Institute and other sources should not be neglected for one minute. On the contrary, beekeepers should take advantage of this free publicity by supplementing it with local advertising. Write to the American Honey Institute for honey advertising posters and then display them conspicuously in the neighborhood food stores. We are "riding high" publicity wise—so let's make the most of it!

From North, East, West, and South

NORTHERN CALIFORNIA, Aug. 1

The Weather: No rain fell in this area during the past month, as is usually the case. The temperature was on the warm side with the nights cool and comfortable. During the last week of July, the nights were too cool for a good nectar flow and what seemed like a promising season has tended to taper off unexpectedly with the cooler nights.

Condition of Plants: The yellow star thistle still looks good at this date but is not yielding as plentifully as during the warmer period earlier. Alfalfa seed fields are either past bloom or are setting up fairly fast. When alfalfa reaches maturity it sets up faster than during the vigorous growing period. Some fields are still highly fragrant although browning with the set of seed. Tarweed looks good in places and should yield a good flow for fall stores. Some fields of safflower are still in bloom and are proving attractive to bees for both nectar and pollen. The quality of the honey is rather poor and reduces the quality of either alfalfa or yellow star thistle when gathered at the same time.

The Honey Crop: The total honey crop in California this year will be some 20 million pounds (a guess) below that reported for last year, and possibly 25 million pounds off the 1952 report. There was practically a failure of three major sources, sage, orange, and buckwheat and the other sources have not produced sufficiently to make up the deficit. In northern California, the crop will be only average, although it has been good so far in some areas. The quality will be average to good although the early flow, which was rather heavy in some areas, was reduced by morning glory and safflower.

Safflower honey improves in flavor after a few weeks of ripening. The flavor when first produced is poor but on ripening, or after being extracted from sealed or partially sealed combs, a change takes place for the better.

Pollination Problems: This spring found most beekeepers either feeding their colonies or searching for floral sources of nectar and pollen. As a result, many colonies were moved in or near seed alfalfa fields for the benefit of the bees and frequently without pollination contracts. Rentals were lowered in some northern areas, upsetting the normal procedure and causing ruinous competition. Some colonies were definitely below pollination strength or the standard that many beekeepers have attempted to meet for the past few years. Some statements have been made that small or weak colonies are as good as strong colonies for pollination purposes, on the **assumption** that weaker colonies gather more pollen in proportion to colony population. The more brood a colony has, the more pollen it will need to rear that brood; also, the greater the number of field bees of all ages, the greater will be the number of pollen bearers when pollen is available. However, we need more information from direct observations and less conjecture to determine these facts.

The establishment of standards of colonies for pollination services and the maintenance of such standards will place the beekeeping industry on a firmer basis than it is at present. The Valley Pollination Service, operating in southern California, is attempting to maintain its colonies at a standard strength called for in a written contract. Colonies are checked when they are moved in and rejected as service colonies if they fall below the standards set. This service tends to create a feeling of trust between the beekeepers and the seed growers.

Miscellaneous: Nitrous oxide has been used to anesthetize colonies of bees to make them "forget" their former location landmarks. It has been suggested that it might be better to treat colonies with nitrous oxide than to move them in order to cause the bees to concentrate more numerously in the alfalfa fields in which they were located. Chas. Reed, of the Valley

Pollination Service, with the help of ten members of that organization, and the writer treated 220 colonies in two different fields in the Mettler area in a test of this theory. The full results are still to be summarized but our observations did not reveal any significant beneficial results. In fact, the results indicated that the treatment may have upset the colonies to such an extent that they do little useful work for more than 24 hours and may have caused the loss of most of the unsealed brood in the colonies gassed. At the same time, 100 colonies of bees were exchanged between two other fields and observations indicated that the exchanged bees worked more normally than the colonies treated with nitrous oxide (laughing gas) but many oriented to surrounding cotton fields rather than to the alfalfa in which they were located. While the laugh may have been on us, it was worth while to attempt to find out basic facts in the manipulation of bees for alfalfa seed production and the beekeepers involved deserve a vote of thanks from others for the time and effort devoted to the work. It was also a demonstration of what a group of beekeepers could do through a well-directed organized effort as against individual competition. —J. E. Eckert, University of California, Davis.

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SOUTHERN CALIFORNIA, Aug. 3

The beekeepers of southern California have experienced the shortest crop in all of history, no fancy quality sage honey produced, very little orange blossom honey, the alfalfa and buckwheat crops are way below average, but the beekeepers seem to be accepting the poor crop in good spirits. The stories are going something like this: The beekeepers in the San Diego hills could see that it was so dry they could not produce sage or buckwheat honey, they could not move west because of the Pacific Ocean; they could not go south because of the Mexican border restriction; they could go over the hills east into Imperial Valley and try and make some alfalfa honey, or they could go north into the San Joaquin in search of pollination work and/or a little alfalfa honey. The latter two they did. The apiaries became so crowded in Imperial Valley that stories are told of the newcomers in some instances just extending the shades on the old apiaries and making themselves at home in the same yard. Imperial Valley being below sea level and enjoying temperatures in excess of 100 degrees at times, it is necessary to shade the bees with artificial shade similar to boweries, made of lath, camouflage material, arrow weeds, or palms. If this is not done, the bees require most of their time and energy air-conditioning their hives and thus produce little surplus honey unless there is shade provided. This, of course, could have one advantage inasmuch as the two beekeepers could share the location rents. It is not uncommon to see truckloads of bees going both directions on the same highway, and we have received accounts of beekeepers moving out of an apiary one night in search of greener pasture over the hill to try and find a little nectar to help provide his winter stores for colonies, and another beekeeper moving back into the old location the next night, with the same objective.

Losses: Observations that I have made and reports received, indicate that there has been a greater loss throughout southern California this year from insecticide poisoning than there has been for two or three years. Very little or no actual killings of entire colonies, but a high mortality of the field force. It is not uncommon to see the ground literally covered with a carpet of dead bees around colonies located in the alfalfa and cotton area.

The harvesting is just now commencing in Imperial Valley and Blythe, which of course is unusually late, and the alfalfa honey harvest will unquestionably be on the short side.

Market: Because of the crop situation and other factors, the honey market remains quite firm and active. Reports are that as high as 18 cents per pound was paid for orange honey, most of it was sold at 15 cents to 16

cents per pound at the beekeepers' warehouses.

Orange blossom honey, being a honey of popular demand, the crop being unusually short, naturally the buyers were actively soliciting what orange honey was available. A story has just come to my attention as follows: If a beekeeper had his colonies on his truck and waved to the orange trees as he went down the road, then the honey harvested from those boxes could be classified as orange blossom honey this year.

Condition of Colonies: Despite the insecticide problem and the hot dry summer that has been experienced, the colonies in general seem to be in good shape. If the beekeepers can procure sufficient winter stores, the production problem should not be too bad for next year.—Woodrow Miller, Colton, Calif.

* * *

TEXAS, August 6

Weather: Generally moderate temperature prevailed over the State with few areas reporting extremely high temperature.

Rainfall occurred during the month over a wide area bringing relief to many parts of North, Central West, and West Texas. While moisture conditions are improved in many local areas, one rainfall does not break a drouth unless followed by additional rainfall of fair proportion.

Bees, Plants, and Honey Crop: During July bees were gathering some nectar from several sources of wild flowers. However, most of the surplus came from cotton in the south portion of the blackland area wherever the bloom was favorable. In most sections extracting operations are in progress. South Texas had a fair crop from horsemint and favored localities obtained a good yield from mesquite from the second blooming. In Central Texas average yields up to 100 pounds were reported from Hubam sweet clover and wild flowers; however, the clover bloom was less abundant than usually because of dry weather and reduction in acreage reserved for seed harvest. In North Texas the early crop came from vetch in favored localities where anthracnose was not prevalent. Hubam sweet clover in that area was greatly reduced by drouth. Some surplus was reported from Madrid sweet clover, however; and at present, cotton is yielding well in the upper half of the blackland area and in river bottoms. While a fair crop of honey has been extracted, there is as yet little to indicate production for the state as a whole. Much depends on the yield of cotton, the chief source of surplus honey for the remainder of the season.

Market: Retail grocers have adequate supplies of honey on hand. Prices are unchanged. Movement is rather slow at this time when fresh fruit is quite abundant. Few local producers have comb honey to offer.

Miscellaneous: A regional meeting was held at Dallas, July 13, by the Marketing Committee of the American Beekeeping Federation for Southwestern States. The honey sales program for 1952 with results of a recent survey were discussed. It was agreed that the contact by the Production and Marketing Administration with chain stores and trade journals was most helpful to the beekeeping industry. Present facilities may not permit PMA to engage as fully in the program this year. Beekeepers must do more themselves for their program of promoting honey sales.

Today, the executive committee of the Texas Beekeepers' Association meets here at College Station for planning a program of promoting honey sales. Exhibits at the Texas State Fair and the extension of National Honey Week with a well-planned program for honey week at local levels throughout many of our cities throughout the state likely will be part of the plan. Beekeepers everywhere should take advantage to affiliate themselves with their local and state beekeeping associations to help foster a program of benefit to their industry. Dates and program of the meeting of Texas Beekeepers' Association will be announced in the near future.—A. H. Alex, College Station, Texas.

MISSISSIPPI, Aug. 8

Conditions were again very unfavorable for the production of the spring honey crop, as was the case in 1952. Two years in a row of failure of the clover honey crop has been very discouraging to many of us. The unprecedented long drouth of 1952 killed practically all the clover plants. However, seed that came up in the fall and early spring grew off well so that it was blooming very well only a little later than normal. Bees were gathering very well from white Dutch the last few days of April. In fact, we were very hopeful at that time. Then it began to rain and for about 15 days the rains were heavy and constant. About the middle of the month the rains ceased and it became abnormally hot. No more rain fell until about the middle of July. For days we had temperatures in the high 90's or above 100. All in all it was a very unusual spring. The dry weather was just right for honey dew in some areas. This was mixed in with whatever clover had been gathered so that it was a very dark color, though not so bad in flavor. Weather and moisture conditions in the south end of the state along the Gulf Coast were more favorable and the temperatures not so high. Colonies in this section had considerable surplus by July whereas many colonies away from the coast needed feeding. Gallberry, ti-ti, tung, and the clovers all yielded well near the coast.

Colonies are generally in fine shape in most all sections of the state. Although moisture conditions are still subnormal in some sections of the state, enough rain fell during the latter half of July to put the honey plants in good shape. Peppervine, which is plentiful in bottom lands, yielded nectar unusually well. Many colonies stored a good surplus from it. By the time peppervine was through blooming cotton was blooming and yielding very well. The blooming period of cotton has been lengthened by there being some early cotton and a lot of late cotton, due to a difficulty in getting a stand of cotton because of the spring drouth. This condition has worked to the advantage of the bees. Cotton is yielding nectar on almost every type of soil on which it is grown whereas it only yields on the darker land most years. Partridge pea is also very luxurious and is yielding some nectar. Bitterweed is yielding some nectar already but is only being worked by bees out of reach of cotton. Pollen supplies are abundant.

We have had no reports nor have we observed any noticeable damage to colonies from the use of insecticides. Most every field of cotton in the state is dusted or sprayed several times. Several different insecticides are used. Fortunately for the beekeeper, calcium arsenate is seldom used. Formerly this was the principal cotton insecticide used and few bees were kept within reach of cotton fields. We are sure that we are having some bees killed but not enough to get excited about. Some of these insecticides doubtless act as repellents, thus preventing them from putting in full time in the fields. We see colonies building combs and storing a very good surplus of honey in spite of any damage the insecticides may be doing.

Goldenrod and Spanish needle plants are looking good at this time. We have good reason to expect a very good yield from these sources. We count on these plants to put our bees in good shape for winter, so it looks as if our bees will go into winter quarters in good shape.—Homer Tate, State College, Mississippi.

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SASKATCHEWAN, Aug. 6

Weather: Weather is always unpredictable but this time the impossible has happened, not once but twice. In past years we have been dried out and frozen out but for two years now in the usually dry part of Saskatchewan we have been drowned out.

Cool, wet weather prevailed all spring but in spite of it, bees built up well and were in good shape by July. Since then cold, wet weather has prevailed 90 percent of the time and bees have been confined to the hives. This is particularly unfortunate as pasture is at its best now and is passing its peak. Warm, sunny weather immedi-

ately will still give us some honey but it will now be impossible to secure more than an average crop at best.

Honey Plants: Last year we experienced an almost 100 percent honey crop failure in this area and it was thought that the extensive 2-4D spraying was having a marked effect on nectar secretion. This year plants are yielding well whenever the sun shines and the effect of 2-4D is not noticeable. It is true, however, that farmers are spraying their 2-4D more carefully than previously and probably there is less drift to adjacent crops.

Miscellaneous: Canadian beekeepers recently experienced several larger-than-average crops and between 1948 and 1952, by concerted advertising and selling, built up consumption and moved all surplus honey. Now that the market is capable of using around 35,000,000 pounds annually with ease, production has dropped below 30,000,000 pounds for two years in a row.

The honey market is clear of all white honey now and demand is good for new crop as soon as available.

It is to be hoped beekeepers will not relax their selling efforts because larger crops will likely return and the market will be needed.—R. M. Pugh, Tisdale, Sask.

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ONTARIO, Aug. 7

Crop: Ontario beekeepers are crying on each others' shoulders this year, as they contemplate one of the poorest crops of honey in recent years. Preliminary reports from the office of the Provincial Apiarist, and from Mr. T. H. Shield, manager of the Ontario Honey Producers' Co-operative, indicate that the light honey yield will be about one-third of normal for the Province, with some areas having scarcely enough to provide winter stores for the colonies. We have our share of poor seasons, but usually there are sections which have good yields though the province as a whole may be short, but this year the condition appears to be general, and the same applies to much of the province of Quebec as well.

It is sometimes difficult to lay a finger on the cause of these near failures, for in many cases the apparent causes differ in different poor crop seasons. During the summer of 1952, over some extensive sections of the province severe dry conditions prevailed. This might have been expected to cause poor germination of clover seedings, yet this year hay crops were so heavy, due to abundant early rains, that farmers are at a loss to know how to dispose of surplus hay. Many silos this year are filled with grass silage. One condition was noticeable, however. There was a marked decrease in volunteer sweet clover. Whereas it was abundant in 1952, it was almost absent this summer, and it may be possible that last year's dry conditions prevented development of seedlings that would have produced bloom this year. And after all, it is the sweet clover growing along roadsides and waste places, as well as the occasional acreage grown for seed or pasture, that we depend on for our light honey.

Coupled with the above-mentioned condition, abnormal weather conditions have prevailed since January. The winter was so mild it could scarcely be called winter. Colonies survived practically 100 percent and with plenty of stores. Brood rearing commenced earlier than usual and under the influence of a heavy flow from dandelion and sugar maple, colonies reached peak strength three weeks earlier than usual. Then followed a long period of cool, cloudy weather with frequent rains, and the boiling over colonies, confined to their hives for days at a time, commenced an orgy of superseding. Old queens, and those introduced in the fall of 1952 were superseded indiscriminately. Even some young queens we introduced during the dandelion flow in the spring were superseded also. I would say that supersedure ran as high as 75 percent. In spite of all efforts a percentage of these superseding colonies swarmed out with virgins. In many instances colonies, thwarted in their swarming plans, just lost all ambition and stored little or no honey. It was noticeable that the colonies that were weakest in

the spring stored the most honey. These reached their peak strength about the proper time and took advantage of what nectar was available. So that's the story of the 1953 season to date in Ontario. Just one of those years when everything seem to go wrong. At this date buckwheat is commencing to bloom, so a substantial late flow is possible. One consolation, anyway, is the large number of colonies going into winter quarters equipped with young queens.

"Do bees work on red clover?" This has been a subject of controversy as long as I can remember. Perhaps I should have framed the question a little differently. "Do bees gather honey from red clover?" Many beekeepers assert they do. Others declare just as emphatically they don't. I range myself with the former group, and this season seems to prove it to my own satisfaction. The most southerly of our yards, three of them, stored no honey whatever till after July 1st when they gathered a small quantity of basswood. Then there was a break for several days, when second growth red clover began to bloom. I walked through several fields and found bees on the blossoms in large numbers, and they were gathering nectar. Most of the colonies in those yards have a full super of honey, which must be red clover, as no other forage is available. Honey in the burr combs between the supers appears yellowish in color, and in the containers it appears to have a distinctly reddish tint. This seems to bear out Pellett's description in "American Honey Plants" from which the following quotation is taken: "In Iowa the writer has sometimes found bees working freely on red clover in extremely dry seasons. At such times the bees were apparently getting some nectar, although it could not be detected in the hive. However, Mr. C. H. True of Edgewood, Iowa, had on exhibition at the state fair, a generous quantity of honey, which he thought was secured from red clover. It was slightly tinted with red, and had a flavor different from white or alsike clover honey."

Pellett's article contains extracts from letters of a number of beekeepers testifying to having secured surplus honey from red clover, one reporting a yield of 100 pounds per colony. Pellett concludes as follows: "While the different observers are by no means agreed as to the reason why the bees are able to get nectar from red clover on occasion, the testimony is very closely agreed upon the fact that it is only from the second crop, and in hot and dry seasons, that the bees are able to store honey from this source."

At all events this is my first experience in obtaining a substantial surplus from red clover, and it came during a two-week period of dry, hot weather.

Markets are almost bare of white honey despite better-than-average crops in 1951 and 1952. It is unfortunate that with demand good the crop of 1953 is deficient. Considerable stocks of golden and light amber are still in warehouses, as these classes do not command ready sale here. Sometimes I think we place too much emphasis on color in honey. Our sales appeal has been built around white honey, thus creating in the mind of the consumer an illusion that the darker honeys are inferior, whereas in food value they are the equal, and possibly superior to white honey. This is a situation we should seek to remedy. —Allan T. Brown, Petersborough, Ont.

* * *

"Hey Pa! It's the honey that should be taken off.....not you."

Here is Your Chance to Pick a Honey. . . .

Which of these lovely young ladies would you choose to become a Honey Queen for 1953? Competing for the 1953 Michigan State Honey Queen at the recent Tri-state Beekeepers meeting at Angola, Indiana are Nancy Carroll, Lois Linske, Claudanne Cooper, Ida Murray, Mary Estes, and Hope Bittner.

Have you been able to pick the Queen yet? The Michigan beekeepers found it tough, too. After a long deliberation they chose Lois Linske (second from the left) to be their Honey Queen for '53.

Here's What is Happening in Maine

By Albert Strout, Bangor, Maine

Last year was a very good honey year in this section although we had to depend entirely on wild flowers. This year the nectar has been coming in very slowly but we can look for it to continue up to the first frost around the middle of September. The bees get very little after that so I usually remove all of my supers at that time.

Here in Maine the fall flow comes from the goldenrods and aster. And while our main flow is from clover, it failed to yield in any great quantity this year. We don't know what this fall will bring but more will be known when the supers are removed about the middle of September.

The bees in my 92-colony apiary are very strong but are not doing well this year. They have swarmed altogether too much and there doesn't seem to be anything that I can do about it.

I dumped some of the swarms back in their old hives when I knew from where they originally came, but they would usually swarm again in a day or two even if I removed the queen from the swarm. When I removed the queen cells from the original hive I was able to return the swarm with some success. But it is too big a task to look through so many hives in a few days.

American Honey Institute News Notes

By Harriett M. Grace, Director
Commercial State Bank Building Madison 3, Wisconsin

THE DAYS of the shopping list are past.

Time was when the homemaker came into a grocery store armed with an ironclad list of every little item she wanted to buy. Flour, sugar, coffee, salt, bacon. Those were the staples. Fresh fruit, crackers, potatoes, spices. Those were next. Then came the pot roast for the middle of the week, the chicken for Sunday. And maybe, last of all, was a piece of rock candy for the children.

But today Mrs. Housewife goes to market without a market basket, without a shopping list. Every store manager will tell you that few homemakers buy just what they came into the store for; if they did, the supermarket would go out of business. Instead, women buy on the spur of the moment, in a moment of quick decision, those foods which strike them as being appetizing, most suitable for their purpose.

The trade calls this "impulse buying". It's a blown-up phrase which means that the consumer buys that food that strikes his fancy at the moment. He does not enter the store for the purpose of buying that food; instead, he buys it on "impulse."

This is a natural situation for honey. The growth of "impulse buying" to the point where it practically dominates all purchasing is no hindrance to honey. To many consumers honey has always been purchased on impulse; honey rarely found its way on a shopping list.

We at the American Honey Institute decided to take a quick survey of the supermarkets and large grocery stores in our area. We wanted to see for ourselves how honey was doing. This is what we found:

Honey plays second fiddle to no food. Honey's merchandisers — its beekeepers, its packers — are doing an excellent job of making honey attractive to the customer.

But we did note a few errors in merchandising that were made by many foods, not just by honey. We will mention them here to help you steer clear of them when you market your big honey crop this fall:

1) **Pick out a honey container that will stack well.** Too often foods are packaged in jars or boxes that did not lend themselves to stacking. Because of the large turnover in a supermarket or in any grocery store nowadays, many items of a kind must be displayed at once. So don't make it hard for the store manager and his help to display your honey by packing it in some container that will not stand one on top of the other.

2) **Let honey's golden pureness show.** Nothing sells so well as a peek at the product itself. If you use glass jars, don't plaster labels all over the whole surface so the housewife has to wrench her neck out of shape to see what the honey itself looks like. If you use paper containers, use the kind with the peek-a-boo windows in them. If you market comb honey, use little enough printing on the label so the prospective buyer can see through the cellophane you use to the honey comb.

3) **Remember that shopping is done in a hurry nowadays** and no one has time to stop and read the whole story of honey printed on a small label in fine print. Keep your labels clear, short, simple, concise. Figure out what it is you want to say, say it, then sit down and figure out how you can say it in fewer words. Then you will have the ideal label. It's not how many words you use, it's what those words say that counts.

4) **Take time to arrange with the store manager for an orderly, attractive display.** It breaks our hearts to see honey relegated to a small, undesirable counter in the store merely on some oversight on the part of the stores help. We tremble with rage when we see honey jars tumbled together in a sloppy display. No beekeeper, honey packer, or any other food retailer can spend his time policing honey displays every day, but often a kind word to the store's manager will help keep your honey in order.

Second Glances

C.M. Isaacson

Sales promotion in a store includes many different ways (page 458). Window displays, exhibits at the store door, floor stands, counter displays—those displays and floor stands offering samples are often especially effective—and of course a salesman actually interested in the product he is selling; all these used rightly **will** sell honey. Free samples seem expensive, and should be used carefully, but can accomplish much. Even literature mailed to consumers can make use of the "free" motif to bring about the desired results. But prepare all your promotion well—as Mr. Gouget says "slip-shod attempts will do more harm than good" (page 460).

Honey is as old as recorded history (page 461)—or perhaps I should more properly say "the use of honey". Its use in many and varied types of honey wines and as vinegar is fairly well known, and as Roger Morse tells, those expert at this were highly regarded in earlier days. Personally, though I rather hate to think of as fine a product as natural honey being made into even the best of wine.

A hot air cabinet is an efficient device for melting crystallized honey. But be sure and note that your can supports and cabinet be so arranged that the honey can flow out as soon as melted. To avoid discoloration and damage to flavor the final heating for packing should be done in a tank where the honey is agitated and temperature carefully controlled—and I might add that provision for quick cooling is very desirable also (p. 462).

Difficulties in heather honey production are many, says Mr. Green in his report from England (page 464). Those he mentions are real ones—the dwindling of colonies, the lateness of the flow with consequent probability of unfavorable weather, the slowing up of brood rearing that should be producing the winter colony—these all call for skilled management. While I have never tasted heather honey, I understand that its quality and flavor are such that the finished product justifies the extra labor and skill expended.

Raising queens is not profitable for a honey producer, says E. S. Miller (page 467). Of course, there are exceptions but as a rule the large scale producer has neither the time nor experience to do two jobs at once. It would be better to pick the better queens each year and send to a reliable shipper with whom you have made arrangements to raise queens from them for you.

A map of beekeeping areas, such as that of New York State shown on page 468, should be of real value both to beekeepers seeking new locations and to new beekeepers coming into or starting up in a given territory. A well prepared map of this type should serve to help prevent many mistakes of location, showing as it does, the generally unprofitable, the borderline, and the profitable areas. It is a worthwhile work.

Lindane, a powerful new insecticide, is recommended by Richard Post for use in eliminating troublesome wasps and colonies of honey bees in unwanted places. Its effectiveness with one application means that the comparatively high price is not an important factor. Keep in mind the caution though, that any honey is contaminated by this insecticide and must not be used for food (page 470).

Honey processing in a closed heater should help considerably in retaining flavor, especially if automatic controls are present to prevent overheating. The quick cooling feature also is valuable in keeping up the quality of the honey. But I doubt if the various methods which involve destruction of the comb would be economically practicable (page 472). Building new comb each season is quite a handicap.

Gleanings' new "scientific page" should be both of interest and definite value to beekeepers everywhere (page 477). Many of our most serious problems cannot be solved without much research, and this report each month will put into easily understandable wording the results of experimentation.

XUM

From the Field of Experience

A Queen Reservoir is Worthwhile

By N. C. Jensen, Macon, Miss.

NO SPECIAL equipment is needed to make a queen reservoir where queens can be kept without injury and in prime condition ready for use whenever needed. Why don't you try a queen reservoir. . . . it's worthwhile.

A carrier or rack for holding the queens suspended can be made out of an ordinary brood-frame, or even a shallow frame. Just tack a couple of thin slats on each side of the frame, fixing one end of one slat so it can be hinged like a door and fastened behind a nail driven part way and bent over to form a latch.

After letting all the attendant bees (attendants accompanying them) out, leaving the queens alone in each cage, stack them in the frame with the candy end resting on the bottom-bar. Then the bees cannot gnaw it away and release the queens.

Nursery Colony

In preparing the nursery colony, select any good normal colony in a two-story hive. Confine the parent queen to the bottom body by a queen excluder, first having raised several frames of the youngest brood to the upper body which is to be your reservoir or nursery. Leave out one comb to make room for your rack of queens and slip it in place, being sure the comb facing the cage screens is far enough spaced so bees can get by to feed the queens.

During normal weather and with some nectar coming in, the queens will remain in perfect condition for a considerable length of time. At intervals of a week or ten days new frames of unsealed brood should be transferred from below, and those of sealed and emerging brood again put below for the queen to re-occupy.

If no flow exists it is wise to provide some type of slow feeder, such as a fruit jar or friction top can with a few small holes in the lid. This can be inverted over an auger hole in the cover or placed over the escape hole of an inner cover. Place an empty super or hive body over the jar, or can, and finally the cover.

Old Queen Cage Reusable

The original cage in which the queens were received through the mail may still be used for introduction with a few precautions. If the candy remaining appears to be too hard it can be tested by removing the card and testing it with a knife blade or a match stick. If it is quite hard, punch a hole through it with a match and replace the little pasteboard card that the bees will chew away in a day or two liberating the queen. Leave at least a week before making an examination.

If you have some other way of introducing queens that is successful with you, use it. Locality has more to do with the behavior of bees than is generally suspected.

Requeening with Nitrous Oxide

By Charles R. H. White, Topeka, Kansas

I HAVE been following the articles in Gleanings on the use of nitrous oxide and finally decided to do some of my own experimenting.

On June 13, 1953, I discovered that I had two queenless colonies. These colonies had neither eggs nor brood. So I ordered queens for replacement and received them on June 19. That evening I gave each of the colonies two minutes of the nitrous oxide and waited for the fanners to come out and resume their work. As soon as this occurred I removed each queen from her cage and ran her in at the entrance. An inspection on June 22 showed that both queens had been accepted and were laying well.

To efficiently blow the smoke in a hive entrance, I equipped a smoker with an extension on the spout. This extension was made from a six-inch length of half-inch tubing.

Getting Swarms Out of Buildings

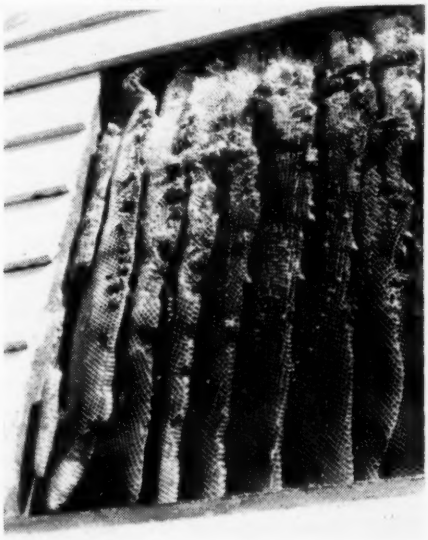
By H. C. Alden, M.A., S.T.M., Pastor of Troy Lutheran Church, Troy, Idaho

The article in the November 1952 Gleanings, by T. H. Hahn of Topeka, Kansas, "When is a Bee Not a Bee?" was read with interest. He wished to know what other beekeepers do when people call them about swarms of bees in their houses. During the past spring and summer four such cases were brought to my attention with requests to remove them.

Case I. The bees were in an outside wall of a small house on a farm. The house was being enlarged in such a manner that this wall would be an inside wall in the remodelled house. The farmer furnished the electric saw and the boards were removed in such manner that they could be replaced again. The swarm was located between the two by fours in this wall. It was a cold rainy day and all the bees were at home. When the boards were gone, comb containing eggs and brood were tied into frames with string to fill a ten-frame hive. Then the bees were brushed into this hive and they stayed. When they were quiet wire cloth was slipped over the top of the hive and nailed down (the entrance having been previously closed), and the hive with bees were placed in the car trunk and taken to the bee yard. The next day another call from the farm revealed some bees in the attic of the house. These were also taken in another hive and united with another hive in the yard.

Case II. The bees were in an old historic frame church building where a picnic is held in August of each year. The bees were removed in a similar manner as per above. The committee in charge of the building had asked that I remove them.

Case III. About September 1, bees were removed from the feed storage section of a barn. The bees were becoming a nuisance to the farmer and to the cattle being milked. An electric saw was used inside the barn. These bees will have to be fed as they had very little honey, but they are of a very gentle variety, and I hope to get honey from them next season. Neither gloves nor veil are needed to manipulate them.



When swarms get into the wall of a building, one must be careful to remove the siding so that it can be replaced again without scarring the structure. The combs are then cut out and tied into standard frames. The bees are then brushed into the hive with the tied-up brood and transported to a new location. Photos by R. W. Briggs, Macedon, N. Y.

Case IV. The bees were in a wall where electric wiring entered the farm home. A chicken-wire funnel was used to lead the bees into the hive with eggs and honey. All but one opening were filled with plastic wood and a bee escape was placed over the remaining opening. Most of the bees came out to make their home ultimately in the hive, and a new queen was hatched. However, the family would not permit the use of any material to kill the remaining bees so the hole was plugged, and the honey has not yet been removed.

Bee life is too sacred to be killed outright, and it should be conserved whenever possible. It is needed so badly and does such a fine bit of work, so that when a beekeeper can cooperate with the Almighty and preserve the bees even when a temporary loss is experienced the first year, he should do so. Bees are better off in my hives than in the walls of other men's houses.

New Way of Feeding Sulfa

By I. F. Miller, Overland Park, Kans.

A NOVEL METHOD of feeding sulfa was given to me by some Kansas farmers, and I am passing it on because it does have some merit.

Feed all the colonies in your apiary with sulfa-mixed syrup following the standard recommendations. Then while these colonies are taking the syrup, place an open container of more sulfa-mixed syrup some distance from your apiary. Be sure to place a lot of floats in the open pan of syrup so that the bees will not drown when they alight on the pan to get the syrup.

With this manner of feeding, any bees that are in the area will also get some of the medication. The result is that American foul brood doesn't show up because other apiaries as well as your own are also treated. And best of all, any swarms in nearby bee trees also get the medicated syrup.

Fall Feeding of Bees

By M. J. Deyell, Editor

EACH COLONY should go into winter quarters with at least 75 pounds of sealed stores. A larger quantity, say 80 or 90 pounds, would be better, as this would make spring feeding unnecessary. Since a full Hoffman comb holds about five pounds of honey, it will be an easy matter to estimate the amount each colony has by removing the frames and hastily glancing them over. If they are short of honey, feeding will need to be resorted to. For this, we advise a good sugar syrup, and as handy a feeder as any is the friction-top pail feeder.

Five or ten pound friction-top pails may be used, each lid being punctured with about 20 holes made by a 3d nail. The feeders are filled with syrup made by diluting two parts of granulated sugar with one part of water. Stir until all granules are liquefied. In cold weather the syrup should be fed warm.

After the hive cover is removed, an empty super is placed over the colony to be fed, and one of these pails of syrup is inverted immediately over the cluster of bees, with cover of pail facing down. Cover pail snugly with an old sack, to prevent the heat of the cluster from escaping above.

If the hive has an inner cover, the center block should be removed and the pail of feed placed over the hole. The outer cover, of course, should be placed on top of the empty super. Some strong colonies will sometimes take the contents of a 10-pound pail in a day. If it is not taken as rapidly as it should be, the residue of the cold feed should be removed and replaced with warm syrup.

To avoid the need of feeding syrup, reserve for each colony a food chamber, which is a shallow or deep super of well ripened honey, in addition to what honey may be in the brood chamber. This means wintering each colony in a two-story hive. This plan certainly simplifies apiary management, and results in populous colonies for the honey flow.

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4-H Beekeeping in Florida

By J. Francis Cooper, Agr. Extension Service, Gainesville, Florida

Brock DeMuth uncaps a frame of honey, and Raymond Summerford operates the extractor, while Jack McCown, Assistant County Agent, pours honey into settling tank as it comes from the extractor, in a 4-H honey house at Camp McQuarrie.—Photo sent by J. Francis Cooper, Gainesville, Florida.

A FULLY equipped 10-colony apiary at 4-H Camp McQuarrie in the Ocala National Forest helps Florida 4-H club members satisfy their longing for sweets during the summer camping season and gives some members training in beekeeping and honey handling. It is believed to be the only apiary maintained at a 4-H club camp in the United States.

McQuarrie is one of five permanent 4-H camps owned and operated by the Florida Agricultural Extension Service. Around 3,000 4-H girls and boys each summer spend a week of recreation and training at the five camps.

Early in 1950, John D. Haynie, apiculturist with the Agricultural Extension Service, and Woodrow W. Brown, boys' club agent, established the apiary at McQuarrie, which also has a small citrus planting. The bees produce close to 2,000 pounds of the sweet each year, providing honey for the camps during the summer and some to sell through the Florida Honey Cooperative at Umatilla.

Cared for by 4-H club boys, from May 1 to February 1 of the following year, the bees gather gallberry and saw palmetto nectar around McQuarrie and are present there during the camping season for 4-H members to see and handle. Mr. Haynie often conducts beekeeping courses for a week at the camp.

About the time Florida's vast numbers of citrus trees begin to bloom the bees are moved to the grove of W. H. Mayfield, Seville, a citrus grower, beekeeper and local club leader. Here the bees gather citrus nectar until time to return to McQuarrie.

Mr. Haynie and Mr. Brown built a honey house at McQuarrie, where the honey is extracted and processed by the 4-H members, who learn approved methods.

A Talk to Beginners

M. J. Deyell

Editor Goes on a Rambling Spree

EVER SINCE I was a boy I have had the desire to travel in order to see the sights and learn how other people do things.

During the years I have visited quite a number of beekeepers over the country. However, I had not been in the four northwestern states and the two western-most provinces of Canada. And so, last spring I arranged to take a trip through the West in order to contact beekeepers and key men of our industry.

At first I thought of travelling by plane, train, and bus, but decided later to drive my car. Before starting on the trip I bought a Dodge Sierra, which I sometimes call a station wagon with a college education. The body of the car, after the rear seat is flattened down, is six feet in length, just right for an air mattress which is 25 x 72 inches, and can be blown up quite easily.

The reason I decided on this type of traveling equipment is that it is somewhat difficult to find a bed in a hotel or motel in certain sections of the country. There is ample space in the back of the car for all of my luggage and the air mattress which I kept made up with sheets, blankets, and a pillow. The air mattress which is almost as comfortable as a Simmons bed served also as a convenient spot to take an afternoon "siesta" when I became weary of driving. When not in use I covered over the bed with an oil cloth to keep off the dust. Of course, there may have been a little dust here and there but there were no women around to see it.

I had such a marvelous time on my 9,000-mile trip through 15 states and two provinces of Canada that I have decided to share some of my experiences with Gleanings readers. Fortunately I took along my camera to get "shots" of prominent beekeepers, apiaries, honey packing plants, etc., some of which will appear in this and future installments of these talks.

Before leaving on my trip June 22, I had to put in some overtime in order to get out a sufficient amount of Gleanings copy to keep the printers busy while I was away. As a matter of fact, if I had not had some efficient assistants to take over some of my work, I could not have made the trip. My sincere thanks to Mildred Hobart and Walter Barth for their splendid cooperation.

Anticipation

It has been said that sometimes anticipation is better than realization. I can truthfully say, however, that the contacts I made and the "out-of-this-world" scenery I enjoyed exceeded my expectations.

I did not make any calls in Western Ohio, Indiana, Illinois, or Iowa. The first sizable apiary I passed was in the southern part of South Dakota, near Mitchell. The owner of the apiary was not at home so I walked in among the hives and hefted some of them. They were somewhat light. Due to the lateness of the season, the honey flow had not yet begun in that area. Sweet clover was not too plentiful except an occasional field and some along the road sides. It was the yellow variety.

ROUTE 16 TOOK me to Rushmore Memorial to admire the marvelous work of art, carving out of solid rock the faces of our four presidents, Lincoln, Washington, Roosevelt, and Jefferson. Anyone who has seen this

memorial can never forget it. Continuing on Route 16 through Wyoming, the seemingly endless stretch of sagebrush land became rather tiresome. In fact, the weather was so hot that I became drousy sometimes, but the strong south wind which swayed the car to the side of the road kept me awake. I noticed one apiary of about 80 hives near the road. Supers were not piled high and were not heavy with honey. As stated previously, the flow had not yet begun.

As I neared Buffalo, Wyoming, I noticed snow-capped mountains in the far distance. I talked to a farmer on the side of the road and he assured me that if I kept on the route I was following I would pass by the snowbanks. I was viewing the Elkhorn Mountains which the farmer said had an elevation of around 11,000 feet. Sure enough, I finally arrived at the top of the mountains where the temperature was quite cool. Just for the fun of it I got out of the car and made a snow ball. Two women who looked like school teachers had alighted from their car and were making snow balls, too. If I had stayed much longer, we surely would have had a snow-ball battle.

The route I was following led into Yellowstone Park and I entered the East Gate shortly before noon. I could have spent a week there and not seen everything. Old Faithful was the center of attraction. The temperature was chilly, in fact, quite cold as we stood waiting for Old Faithful to erupt. In due time we were rewarded for our patience in waiting. This is indeed a marvelous phenomenon.

Many kinds of animals and birds live in the park. I saw eight bears, most of them the black variety. At one place I stopped on the side of the road to eat an orange. Presently a big brown bear emerged from the woods, walked directly to the side of my car, put his big paw in through a small opening at the top of the glass and held it there until I gave him a piece of orange. While he was putting the orange in his mouth, I wound up the window quickly and drove off. I should not have fed the bear for the authorities warned visitors against becoming too chummy with them.

A bear comes out of the Wyoming mountains to pose for his picture.

Through Montana

I had always wanted to see this state and it was certainly worth seeing. It seems as though I must have driven over most of the mountains in the state. One has to drive with extreme care around the sharp curves especially when there is no railing or fence to keep one from slipping off the edge into a seemingly bottomless abyss below.

The forage for bees in a large portion of Montana consists of sweet clover which is found along the creeks and rivers. It is impossible to locate apiaries very far from the main road because much of the country back from the highways is very rough and inaccessible. I had a short visit with Mr. Graham, the State Bee Inspector, at Bozeman. At that time the main honey flow was about to begin if warm weather continued. Earlier in the season cool rainy weather had prevailed which delayed the main honey flow.

Good crops of honey are secured in Montana during favorable seasons and the quality of the honey is unusually good. In some areas of the state bees get late summer and early fall honey to fill up for winter stores. Occasionally this late flow may give some surplus.

The Province of Alberta

This is the province I wanted to see because I had read about the unusually large yields of surplus honey. Some years ago I spent a few months in

Alberta's oldest beekeeper, Wm. Graham, of Coaldale, who started beekeeping from package bees in 1922.

A covered rack used by Mr. Graham to hold 800 two-pound packages hauled from California to Alberta.

Saskatchewan, just east of Alberta, but I had never been in Alberta.

After crossing the line, the first city of any consequence that I visited was Lethbridge which has a population of about 25,000. It was a fast-growing city, quite modern in every way. I had the pleasure of a visit with William Graham near Coaldale about six or eight miles west of Lethbridge. Mr. Graham came from England after the first World War, and got started in beekeeping. He is one of the oldest beekeepers in Alberta, having ordered package bees from California in 1922. During the years he has used packages from that state and has secured very good crops.

One of his sons hauls two-pound packages with queens from California, 800 packages to a load in a specially built large van which is properly ventilated so that the bees are comfortable. Mr. Graham thinks it is possible to winter bees out of doors in his locality especially if each colony has good quality stores and is made up of a high percentage of young vigorous bees. Mr. Graham says that a normal colony uses only about 20 pounds of stores from late fall to early spring. It is during the heavy brood rearing season early in the spring that the bees consume an enormous amount of food and at that time it is usually necessary to feed combs of honey or sugar syrup.

A considerable amount of supersedure of queens occurs in that area after packages are installed. This seems to be common also in other parts of Alberta. Various theories have been advanced as to the cause of supersedure, but apparently more work has to be done to determine the real cause. I tried to call on the manager of the Macleod Apiaries, Bill Hudson, but he was away that day.

I then journeyed on to Calgary, a city about 150 miles farther north. I called on Mr. LeMaistre and his family who were vacationing on a little lake south of Edmonton. Mr. LeMaistre is the extension specialist in beekeeping for Alberta and has conducted a number of experiments with different sized packages, also comparing results from packages installed at different times in the spring.

It seems necessary to get packages installed reasonably early, as early in April as possible, so that the packages may build up into colonies sufficiently populous in bees to store the maximum

(Continued on page 574)

Honey Promotion "Down Under"

The Australians really promote honey with their elaborate floats and window displays. The honey promotion shown here, was used in Perth, Western Australia, according to T. Ewell, Manager for the Trustees of the Honey Pool of W. Aus.

Just News

The **Westchester County Beekeepers' Association** will play host to the North Jersey Beekeepers' Association and the Bronx Beekeepers' Association on Sunday, September 20th, 1953 beginning at 12:30 p. m. at Flint Park in Larchmont, New York. The Park is situated at the end of Locust Avenue off Bronson Avenue. Bring your own picnic lunch—coffee, soda, and cake will be served. Many contests will be held with prizes for the winners. During the afternoon we will have Mr. J. (Jack) Deyell, Editor of Gleanings and Dr. E. J. (Tim) Dyce of Cornell University as our speakers. Plan to join us at this meeting as a wonderful time will be had by all.—Carlton E. Slater, Publicity.

* * *

NOTICE

"Just the Cream and the Honey" for the **American Bee Breeders' Association** and the **Southern States Beekeepers' Federation** in Atlanta, Georgia, November 2nd and 3rd, at the Atlanta Biltmore Hotel!!! This is borne out by the following speakers who will appear on your program:

Mrs. Harriett M. Grace, Director, American Honey Institute, Madison, Wisconsin; M. G. Dadant, Dadant & Sons, Hamilton, Illinois; Alan I. Root, The A. I. Root Company, Medina, Ohio; George Vest, G. B. Lewis Company, Lynchburg, Virginia; Jon Clement, Owens-Illinois Glass Company, Atlanta, Georgia; George B. Dakan, Hazel-Atlas Glass Company, Atlanta, Georgia.

It is hoped that James I Hambleton, United States Department of Agriculture, Division of Bee Culture and Biological Control, Beltsville, Maryland; C. L. Farrar, U.S.D.A., Division of Bee Culture and Biological Control, Madison, Wisconsin; and Harold J. Clay, U.S.D.A., Production and Marketing, Washington, D. C.; and Mr. and Mrs. Walter T. Kelley, Clarkson, Kentucky, will be able to work out their arrangements so that they will be able to attend.

Certainly with the above, it can be said again that we will have "The Cream of the Crop" on this program and that it will be a "Honey"! Make your plans to attend—we assure you that we are making every effort to make the Convention long-remembered and full of pleasant memories for you and your wife to take back to your BEES!!!!!—W. B. Crawford, Jr., President, North Georgia Beekeepers.

* * *

The **Western Missouri Beekeepers' Association** will hold its regular meeting at the home of Mr. and Mrs. Frank McLaughlin, 2733 Jackson, Kansas City, Missouri on Sunday September 13 at 2:30 P. M.—Mrs. R. W. Cornforth, Sec.

* * *

The fifty-second annual meeting of the **Kansas State Beekeepers' Association** is to be held in Augusta, Kansas, at the City Hall, Saturday, September 19, 1953. Marketing and alfalfa pollination problems are to be stressed at the meeting.—R. L. Parker, Professor of Apiculture and State Apiarist.

* * *

The next meeting of the **Middlesex County Beekeepers' Association** (Mass.) is scheduled for the Helmboldt-Adams farm and apiaries at Westford, Mass., September 26th, at 2 P.M. Those beekeepers in the area as well as all members are invited to attend. Bring picnic baskets, tables, and utensils, and be prepared to stay all day. The farm, in addition to many bee hives, has large areas of fruits and vegetables as well as goats and geese. This is the meeting where the "Club Hive" is to be given to some lucky member. At this writing the hive consists of two and one-half stories of Standard 10-frame Root bodies and frames well-filled with brood, pollen and honey. The last meeting in August at the summer home and out-apiaries of member James Delory was enjoyed by all. They are always such fine hosts that all the members plan not to miss this meeting. Jim has a very well built glass hive with glass on four sides. This gives the observer a fine chance to study bee action but the Queen can not always be found as she may be on

one of the inside frames. Many of the members had a swim in the large mile long lake at Groton and the "Club Hive" was found to be in fine condition. Harold Swayze of the Worcester County Association gave a demonstration of the use of "Laughing Gas" in the introduction of a new queen. This system was fully described in the December issue, 1952, of Gleanings in Bee Culture.—John H. Furber, Sec.-

* * *

New Brunswick Apiarist Killed—Mr. Ersel F. Moore, New Brunswick Provincial Apiarist, met instant death in a car-train collision at Grand Bay, New Brunswick, June 23, 1953. Mr. Moore will be greatly missed throughout the three Maritime Provinces where he was so well known. His ability, sincerity, and the genial warmth of his personality made him well-fitted for his task. In recent years Mr. Moore prepared a course of lectures on apiculture which he gave at the New Brunswick School of Agriculture, Fredericton, New Brunswick. This course was an instant success and, in its published form, stands as a partial memorial to the ability and character of the man.—Philip Bishop, Sackville, N. B.

* * *

Handbook for Colorado Beekeepers—A 590-page handbook packed full of information about bees, forage crops, horticulture and a hundred other useful items is now available to beekeepers in Colorado. Prepared by staff members of the Colorado Agricultural and Mechanical College, this book brings together all of the latest agricultural information relative to Colorado. Interested beekeepers can get this valuable book at a cost of $4.00. Simply write to the Office of Publications, Colorado Agricultural and Mechanical College, Fort Collins, Colorado.

* * *

Sprays Kill Bees in New York State.—An estimated $200,000 damage to the honey crop in northern New York was caused by the spraying of state forests, according to nine area beekeepers who are filing damage claims against the state. The attorneys for the beekeepers have given a notice of intent to file claims with the state attorney-general's office. The local firm of Dunk, Conboy, McKay, and Bachman represents the beekeepers from St. Lawrence and Jefferson counties. According to the beekeepers, sprays applied in the Northern New York areas were carried by the wind to honey-bee colonies and killed or weakened thousands of bees.

* * *

Always a popular attraction in the huge palace of agriculture, the Apiary Division at Los Angeles County Fair in Pomona, Sept. 18 through Oct. 4, promises to be larger, more attractive and more interesting than ever, according to veteran superintendent, George Adamson. Premium books containing detailed information are ready for distribution and can be had upon request at Los Angeles County Fair. They show 34 classes for competitive exhibits, including feature exhibits entered by a producer or producers' organization, many varieties of comb and extracted honey, unbleached beeswax, breads, rolls, cakes, pies, and other articles sweetened with honey and candies made with honey. Cash prizes to fourth and fifth place will be awarded. There will also be sweepstakes awards. Entries close Sept. 15. Judging will be on Sept. 18 and 19. Last fall 1,085,475 people attended the fair. This year, because of increased population and interest in the area, attendance is expected to be much larger. The grounds present a scene of intense activity as preparations are rapidly rounding into shape for the exposition.

* * *

Two summer bee meetings were held in North Carolina recently, one at Boone on August 14-15 and the other at Cullowhee on August 17-18. Even though beekeepers in that state were not blessed with a big crop this year the attendance was above average and the program worth while. One of the speakers Geo. Rea, one of the first extension workers in the U. S. reviewed the early history of beekeeping in North Carolina and told about his experiences with the late L. S. Sams who did such outstanding work inducing beekeepers to transfer bees from log gums to modern hives.

XUM

Moving Bees

IT IS NOT advisable to move bees in winter, since the bees at that time of the year should not be disturbed. During hot weather they may be moved, if care is taken to guard against suffocation. The best time, however, for moving, is in the fall or spring.

When moved a short distance, many of the bees will return to the old location unless cold or wet weather prevents their flight for as much as two weeks. In order to prevent such return, when moved less than a mile the colony should first be moved to some place two or three miles away and then a few weeks later, moved to the desired spot. For, by that time, the original location will be forgotten. Or, if the colony is to be moved only a few rods, the hives may be moved a few feet two or three times a week until the hive is on the desired location.

When moving a mile or more there will not be this danger of returning. It will be necessary, though, to specially prepare the hives for the trip. Toward night or in the morning, when no bees are flying, remove the entrance block, shove into the entrance a stiff strip of screen about three inches in width and as long as the entrance, taking pains that it fits tightly, so that no bees can escape. Next, gently remove the cover and immediately cover with a screen attached to a rim two inches in depth, fastening this to the hive with a long staple at each corner. This leaves a nice clustering-space over the colony and provides plenty of ventilation. As the bees are jolted along the road they become so active that the temperature in the hive is increased considerably; and, unless plenty of ventilation is supplied, the bees may suffocate. When the weather is cool, less ventilation will be needed, and the screens may, therefore, be partly covered. The bottoms should be attached to the hives by means of a staple at each corner.

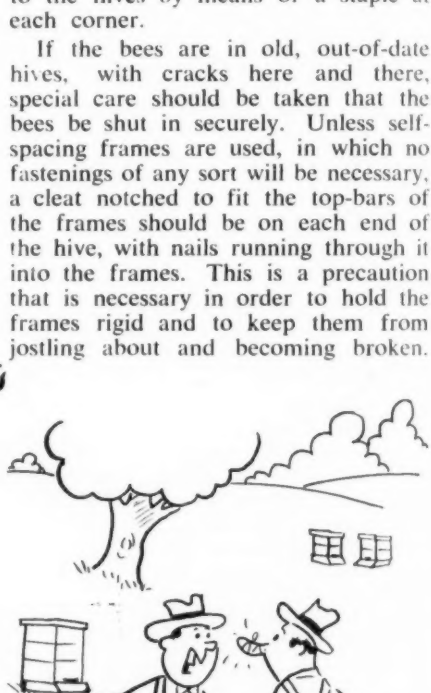
If the bees are in old, out-of-date hives, with cracks here and there, special care should be taken that the bees be shut in securely. Unless self-spacing frames are used, in which no fastenings of any sort will be necessary, a cleat notched to fit the top-bars of the frames should be on each end of the hive, with nails running through it into the frames. This is a precaution that is necessary in order to hold the frames rigid and to keep them from jostling about and becoming broken.

Bees Kill Camel

By George P. Georghiou, Cyprus

HAVE YOU ever heard of bees stinging camels to death? It happened almost accidentally on the Island of Cyprus in 1941. A swarm of bees attempted to settle on a camel's tail. The camel would not accept this and was moving her tail up and down. So the bees got excited and stung the inhospitable camel so severely that she died two days later.

I myself have never heard of bees killing such large animals and would never have believed this story if I had not heard it personally from the owner of the camel who explained that he had tied his camel tightly very near the apiary, so that she could not go away and save herself. It is also probable that a good many other bees got angry and assisted the swarm in committing the crime.



"—and the next time keep your nose out of the extractor."

Elmer G. Carr Passes On

ELMER G. CARR, widely known bee authority, author, and for many years Assistant State Entomologist of New Jersey, died on July 24, 1953 at the age of 81. In spite of a failing heart and numerous warning attacks, he continued active until finally stricken on July 4 while weeding the strawberry bed at his Pennington home.

Mr. Carr was born at Georgetown, New Jersey, May 26, 1872 and as a young man was a railroad station agent. In 1894 he married Sarah Miller of Farmingdale. She and a daughter, Mrs. Horace Gottshalk, survive him. After establishing his own home, he became interested in bees and soon had 75 colonies. He became a student of bees, read widely and observed closely. After losing heavily from bee diseases, he began his crusade for better beekeeping practices.

When Dr. John B. Smith, State Entomologist, was looking for an assistant in 1912 to help control bee diseases on a statewide basis, E. G. Carr was chosen. He set about his task with the thoroughness which marked all his work. He believed in heat as the best sterilizing agent, so fire and the blow torch became well known to New Jersey beekeepers. Many who opposed him at first became his friends and supporters as his campaign succeeded.

Sent to other states to observe and help, Mr. Carr became known up and down the Atlantic coast from New England to Florida and in the Middle West. A bee meeting always drew him and usually he was a speaker, having first-hand knowledge to share. To watch him examine a hive and prepare a colony for pollinization service was an education. In recent years, many of his 200 colonies were in demand for orchard and greenhouse work. His queens were shipped all over the world.

As contributor to bee journals and author of the Manuel of Bee Husbandry, Mr. Carr's influence on beekeeping spread to many who never knew him personally. In his own state, he was Secretary of the Beekeepers' Association for 36 years.

E. G. Carr was a Christian gentleman and a man of wide interests. An ardent Methodist, for many years he taught a man's Bible class. He grew beautiful roses and African violets, developed choice strains of tomatoes and snap beans, was a confirmed "composter", bound his own bee journals, and repaired old volumes in his extensive bee library. His honey candy was in demand locally and at bee meetings. He strongly opposed price supports for the bee industry as sure to injure the small producer. He campaigned for roadside planting as a source of pollen and nectar.

Mr. Carr's wit sought an opening in each conversation. A few days before his death, while receiving glucose intravenously, he remarked that it might be all right but he thought honey would be better. On the other hand, when aroused by injustice, dishonesty or laziness, he did not mince his words.

E. G. Carr will be missed by the beekeepers of New Jersey, by readers of this and other bee journals, and by his friends in many places for he lived "not to be ministered unto, but to minister."—Cecil K. Blanchard, Pennington, N. J.

Bees take Part in Civil War

By P. E. Braun, Cairo, Nebr.

During the hard fought Battle of Antietam the rookie 132nd Pennsylvania regiment was advancing under heavy fire, in good order.

Their advance took them through a yard that contained a long row of bee hives. About this time a Confederate round shot plowed through this line of hives lengthwise.

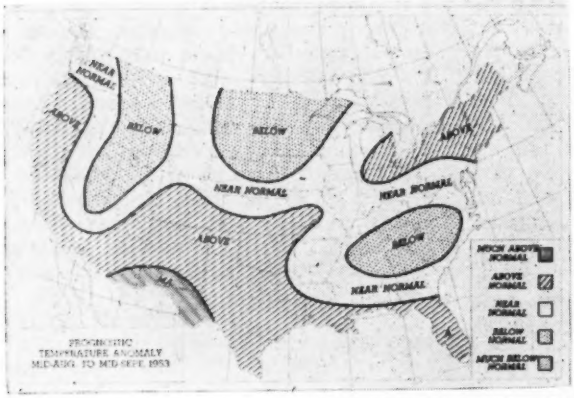
History says that it took the combined efforts of General Kimball, his staff, and the regimental officers to re-organize the regiment.

Apparently the boys could take the Confederate fire but not the angry bees.

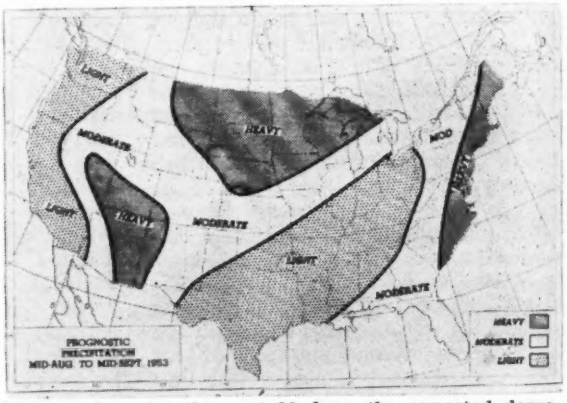
P. S. My source for this is the book "Mr. Lincoln's Army."

Average Monthly Weather Resume and Outlook

U. S. Department of Commerce, Sinclair Weeks, Secretary
Weather Bureau, F. W. Reichelderfer, Chief



Prognostic temperature anomaly Mid-August to Mid-September, 1953



Prognostic precipitation Mid-August to Mid-September, 1953

The above charts for the United States show for the next 30 days, the expected departures from normal temperatures and the expected total precipitation by means of classes.

Outlook for Mid-August to Mid-September 1953

The Weather Bureau's 30-day outlook for mid-August to mid-September calls for temperatures to average below normal in the Southeast, Northern Plains, and Great Basin, and above normal in the Northeast, Southwest, and Gulf Coast. In the remainder of the country temperatures are expected to average not far from normal.

Rainfall is expected to exceed normal in the Northern Plains, Upper Lakes, Southern Plateau, and along the Atlantic Coast. Subnormal amounts are indicated along the West Coast and in a broad band from Texas northeastward through the lower Mississippi and Ohio Valleys to the Lower Lakes. Elsewhere near normal amounts are predicted.

CAUTIONARY NOTE: The 30-day Outlook given here is not a specific forecast in the usual meteorological sense, but is an estimate of the average rainfall and temperature for the next 30 days based upon the best indications now available. For more specific predictions subscribers should look to the local forecasts published by the nearest Weather Bureau Office. Daily local forecasts are limited to approximately 36 to 48 hours in advance; more general 5-day forecasts are made twice a week. The Outlook will be most useful when interpreted and applied by an expert. In any case, it should be kept in mind that nearly always there are changes in the weather every few days, sometimes of a sudden and severe nature.

Buy and Sell

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate: 15c per counted word, each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in by the 10th of the month preceding publication.

HONEY FOR SALE

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. The Hubbard Apiaries, Onsted, Michigan.

IOWA Honey, one can or truck loads. Russell D. Smalley, Beaver, Iowa.

CLOVER extracted honey in sixties. Abram Brubaker, Lancaster, Pa., Rt. 1.

FOR SALE—White Clover Honey, write for prices. Lloyd E. Allen, Tipton, Mich.

Michigan's finest raspberry, basswood, clover comb honey, in 4 x 5 window cartoned sections. Extra Fancy, $7.50; Fancy $6.50; No. 1, $5.50; No. 2, $4.50 case. E. Z. Quick Way B. Farms, Walloon Lake, Michigan.

FINE WHITE CLOVER Honey, per 60-pound can, $7.50. F. J. Smith, Castalia, O.

NEW CROP HONEY — White, mostly Clover, 18c per pound in 60's, 5 or more 60's, at 17c. LOSE BROTHERS INC., 206 E. Jefferson St., Louisville, Ky.

WHITE CLOVER COMB and extracted honey. C. W. Schrader, Waterville, N. Y.

CLOVER COMB HONEY for sale. Write Gordon Pratt, Munnsville, N. Y., R. D. 2.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We can not guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on COD terms except where the buyer has thoroughly established his credit with the seller.

CASH for your comb honey and all types extracted. Send sample and best price. Buckeye Honey Co., 3930 No. High St., Columbus 14, Ohio.

CASH for Beeswax. Write as to quantity and we will quote price. Muench-Kreuzer Candle Co., Inc., Syracuse, N. Y.

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 2613 South Yates Ave., Los Angeles 22, California.

HONEY WANTED, any amount. If you want more for your honey, sell it to Cloverdale Honey Co., Fredonia, New York.

WRITE FOR shipping tags and quotations on rendered beeswax. We buy from one pound up and if you have over 25 pounds let us work it into foundation for you at a 25 percent saving. Walter T. Kelley Co., Clarkson, Kentucky.

CASH FOR YOUR HONEY—Light extracted or comb. Regular trade send sample. 60-pound cans furnished if desired. W. R. Moomaw, Stone Creek, Ohio.

WANTED—Light amber clover, amber, goldenrod, buckwheat. Advise what you have for immediate delivery. Roscoe F. Wixson, Dundee, New York.

CASH PAID for white and amber extracted honey. Send samples and state quantity available. Prairie View Honey Company, 12303 - 12th St., Detroit 6, Mich.

WANTED—Carloads or less of honey and wax. Any grade. Send sample and best cash price. Alexander Company, 819 Reynolds Road, Toledo, Ohio.

ALL GRADES HONEY AND WAX WANTED—Mail samples, advise quantity and cash prices delivered to us. HONEY SALES COMPANY, 1808 NO. WASHINGTON AVE., MINNEAPOLIS 11, MINN.

WANTED — Honey all grades. Quote prices and send sample. Write Stoller Honey Farms, Latty, Ohio.

WANTED — White extracted or comb honey. Send sample. Millersport Honey Co., Millersport, Ohio.

BEESWAX OR HONEY WANTED in trade for supplies or cash. Hodgson Bee Supplies, Ltd., 575 - 13th Ave., New Westminster, B. C., Canada.

HONEY WANTED, all grades, in 60's. Mail samples, advise quantity, best price. A. I. Root Co. of Syracuse, 1112-14 E. Erie Blvd., Syracuse, N. Y.

CUT COMB AND EXTRACTED—Truck lot—white—needed immediately. Cash paid on receipt. LOSE BROTHERS, 204 East Jefferson St., Louisville 2, Ky.

FOR SALE

WRITE FOR CATALOG — Quality Bee Supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies and Comb Foundation. Onsted, Michigan.

THE BIGGEST BEE SUPPLY Catalog published (64 pages) free for the asking. Listing many items not found in other Catalogs. No agents—buy direct and save 20%. WALTER T. KELLEY CO., CLARKSON, KENTUCKY.

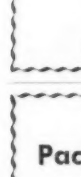
FOR SALE — New heart cypress 10-frame bottom boards. K. D., 10 or more $1.00 each; 50 or more, 90 cents each; 100 or more, 85 cents each. One nailed up sample, postpaid, $1.25. Fred L. Poole, Elizabethtown, Rt. 2, Box 67, No. Car.

HONEY LABELS
Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples & prices.
C. W. AEPPLER COMPANY
Oconomowoc, Wisconsin

ITALIAN QUEENS
$1.00 each
Pure mating guaranteed
W. E. PLANT
Hattiesburg, Mississippi

ITALIAN
Package Bees and Queens
Jackson Apiaries
Box 58 Funston, Ga.

"GULF BREEZE"
Italian Queens
PRICES:
1-24 ..... 80c ea.
25 and up 75c ea. Airmailed
BESSONET BEE CO.
Donaldsonville, La.



CAUCASIANS
CARNIOLANS
Hardy. Prolific, rapid build-up best of workers. Caucasians have the longest tongue of any race. Both races build beautiful white combs. BOTH ARE THE GENTLEST OF ALL RACES OF BEES. Gentleness is safest in towns, near neighbors, or near streets or highways. Gentleness saves time, sweat patience, and work. Discount on quantity orders. Ask. More and more beekeepers requeen during September.
Prices, Both Races:
Untested Queens ..... $1.00 each
Tested Queens ..... 1.75 each
By Air Mail
Albert G. Hann
Glen Gardner, New Jersey

HONEY WANTED
Carloads and less than carloads. Mail sample and best prices in all grades.
C. W. AEPPLER COMPANY
Oconomowoc, Wisconsin

ELECTRO Filling Machines, users and distributors. Write Stoller Honey Farms, Latty, Ohio.

BEE SUPPLIES—Tin packages; 10 sizes glass jars; paper shipping supplies; window cartons and other items. Roscoe F. Wixson, Dundee, N. Y.

The only comb foundation plant in the east. We sell foundation, work your wax, render combs and cappings. Robinson's Wax Works. R. D. 3, Auburn, N. Y.

FOR SALE—1½-inch honey pump with fittings, $30.00. Irvin Van Devier, Medina, Ohio.

FOR SALE—Five h. p. vertical flueless high pressure boiler. Used only few weeks. Guarantee factory condition. Otto Zick, Baraboo, Rt. 3, Wisconsin.

BEES AND QUEENS FOR SALE

We use all possible care in accepting advertisements but we cannot be held responsible in case disease occurs among bees sold or if dissatisfaction occurs. We suggest that prospective buyers ask for certificate of inspection as a matter of precaution.

GOLDEN SELECT UNTESTED QUEENS, 1 to 25, $1.00 each; 25 up, 90c. Carolina Bee Farm, Graham, N. C.

CAUCASIAN QUEENS EXTRA GENTLE. Select queens. 1 to 25, $1.00 each; 25 up, 90c. Black River Apiaries, Currie, North Carolina.

THREE BANDED ITALIAN queens. Select. 1 to 25, $1.00 each; 25 up, 90c each. Alamance Bee Company, Rt. 1, Graham, North Carolina.

CAUCASIAN Bees and Queens, 2-lb. pkg., $2.75; 3-lb. pkg., $3.50. Queens 75c each; 100, $65.00. Lewis & Tillery Bee Co., Greenville, Ala.

NORTHLAND ITALIAN QUEENS—For production. $1.00 each; 10 up, 90c. Shirl Baker, Rodney, Michigan.

HONEYLINE QUEENS—Large beautiful Italians, $2.00 each. STEPHENS APIARIES, Wingate, Indiana.

CAUCASIAN queens, young large laying, personally raised. Balance of season. $1.00 each. Fred Brock, McDonald, Tenn.

YANCEY HUSTLERS—Three-band Italians. They get the honey. Queens balance of season, $1.00; $10.00 dozen. Caney Valley Apiaries, 2500 Nichols, Bay City, Texas.

FOR SALE: 800 colonies of bees and equipment, large new extracting house, stainless steel extracting equipment. Located in good irrigated valley in western Montana. Write for further particulars. W. R. Hettrick, 153 Daly Ave., Hamilton, Montana.

YELLOW ITALIAN bees and queens. Real producers. Health certificate. Satisfaction guaranteed. 1 to 20, $1.00; 20 to 50, $ .90; 50 up, $ .85. Airmailed. O. E. Brown, Route 1, Asheboro, No. Car.

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FOR SALE—800 colonies of bees, all equipment, honey house, located in a white honey district, Flathead Valley, Montana. Ned F. Dressel, Ronan, Mont.

FOR SALE—1000-colony outfit in Montana in exclusive territory. Price cut in half. Will also sell a part of it to be moved elsewhere, or will sell equipment without bees.—Box 123, Gleanings, Medina, Ohio.

SEEDS

HONEY PLANTS: Seeds—Trees—Plants. Illustrated catalog on request. Pellett Gardens, Atlantic, Iowa.

MISCELLANEOUS

SECTION COMB HONEY production procedure steps, 50c. Glossary of Beekeeping Terms, 50c. United Industries, Dept. L, Box 449, Madison 1, Wisc.

Bargain in new or used honey cans or Root supplies for cash or honey. Buckeye Honey Company, 3930 N. High St., Columbus 14, Ohio.

HELP WANTED

WANTED — Young men interested in learning bee supply business. Openings in shipping, sheet metal, and printing departments. The A. I. Root Co., Medina, O.

WANTED—Capable young bee man for balance of season. Job next year if satisfactory. Lavern Depew, Auburn, N. Y.

HELP WANTED—Two men for the coming season. Give references. Howard Weaver, Navasota, Texas.

MAGAZINES

THE BEE WORLD international and scientific journal on bees and beekeeping, with apiculture abstracts. Monthly, including membership in the Bee Research Association, $3.00 per annum, including apicultural abstracts. Dr. Eva Crane, Director. 55 Newland Park, Hull, Yorks, Eng.

Know interesting facts concerning the bees of India through the INDIAN BEE JOURNAL, published in English by the Bhupen Apiaries (Himalayas), Ramgarrh Dist. Naini Tal, U. P., India, or available through them. Subs. Rs7/ or 10 shillings or 2.25 dollars per annum. Single copy Rs ¼s. 1/9 or 40 cents (International Money Order). Payment in mint postage stamps of your country accepted.

Read the South African Bee Journal. Published every two months. Subscription 7/6 per year to the Treasurer, P. O. Box 3306, Cape Town, South Africa.

DO YOU FIND it difficult to secure information about sheep and sheep ranching methods? The SHEEP AND GOAT RAISER reaches more sheepmen with more information on range sheep than any other magazine published. Subscription $1.00. Hotel Cactus, San Angelo, Texas.

ATOMIC POWER?
FLYING SAUCERS?
NO! !
HYBRID QUEENS

Under contract we have taken over the equipment and breeding of Kelley's Island 4-way Hybrid queens. No other breeder can offer you these bees. They are known as "Island Hybrids".

Look over your queen needs and place your order for replacements early for immediate or future delivery.

Many favorable reports have been received on this bee.

Prices June 1st to Oct. 15th

	Hybrid Stock	Rossman Stock
1-25	$1.25 ea.	$1.00 ea.
26 or more	1.15 ea.	.90 ea.

"They Produce"

Rossman Apiaries
P. O. Box 133 Moultrie, Ga.

HARPER'S FAMOUS QUEENS
by airmail
75c each
10 or more, 65c each
CARLUS T. HARPER
New Brockton, Ala.

GIRARDEAU APIARIES
Tifton, Ga.
Shippers of
Italian Package Bees
and Queens

BETTER BRED QUEENS **THREE BANDED ITALIANS**

65c ea. **Air mail** September is one of the best months to requeen. Our Better-Bred Stock will suit you. **65c ea.** **Air mail**

CALVERT APIARIES **Calvert, Alabama**

FOR TOP QUALITY AND SERVICE—SEND US YOUR ORDERS

We offer Two Quality Strains:
DADANT'S STARLINE HYBRID QUEENS
GARON'S THREE-BANDED ITALIAN QUEENS

PRICES:

Italians	1-24	$ .80	Starlines	1-24	$1.20
	25-99	.75		25-99	1.15
	100-up	.70		100-up	1.00

Reg. U. S. Pat. Off.

Queens Air Mailed, Clipped and Painted, if desired at no extra charges.

GARON BEE COMPANY DONALDSONVILLE, LA.

JENSEN says:

Fall requeening of those "just fair" colonies is good beekeeping practice. Poorer colonies might profitably be united and then requeened. Good queens given to very poor colonies invariably result in the loss of both.

Good wintering depends almost entirely on three things, i. e.,

1-A sizable cluster of predominately young bees.
2-Ample stores of good quality.
3-Young queens of healthy vigorous stock.

Spring takes a heavy toll of old queens that appeared to be all right the fall before, resulting in no build-up.

"MAGNOLIA STATE" Italian Queens Bred for Quality Not to meet price		"STARLINE" HYBRIDS of Dadant's Improved Stock Producers and Gentle Jensen Reared	
— PRICES —			
1-24	$1.25	1-24	$1.50
25-99	1.15	25-99	1.40
100-up	1.00	100-up	1.25
Clipped and Marked Free on request only		Clipped and Marked Free as a regular SERVICE	

All Air Mailed where distance justifies.

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JENSEN'S APIARIES MACON, MISSISSIPPI U. S. A.

OPPORTUNITIES UNLIMITED

Honey Producing Units

MONTANA

"Three Income" Unit

CALIFORNIA

For Sale or Lease any portion

Howard Foster

Box 55 Bridger, Montana

Box 239 Colusa, Calif.

Personally Reared
Caucasian Queens
$1.00 each
Large lots 90c each
HOWARD WEAVER
Navasota, Texas

MAKE YOUR BEEKEEPING MEETINGS PAY OFF

(Continued from page 525)

with the uses of honey here is where the emphasis should be placed. A large enclosure sealed off from the general traffic and labelled "Honeyland Magic" with signs that cannot be missed would do much to arouse curiosity and draw people in. On the inside every possible honey product should be offered for sale in a professional manner. The project could be standardized so that it could be depended upon to work almost anywhere where hundreds of people congregate, and it could be self supporting. A professional effort in this direction can do much toward increasing the use of honey.

Organizing to Teach Selling

EVERY LOCAL unit is a potential class in marketing and salesman-

(Continued on next page)

PROTECT YOUR FUTURE. BUY YOUR SAVINGS BONDS NOW.

The most revolutionary improvment in the hive since Langstroth—

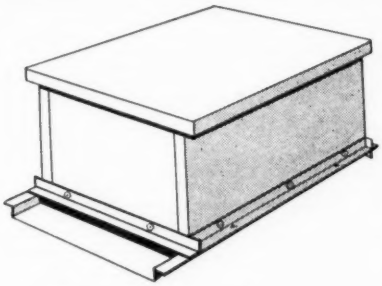
The "UNI-TEMP" ALUMINUM HIVE

- Cooler in summer
- Warmer in winter
- Exceptionally long life
- Light weight
- Rust free, rot free
- Never needs painting
- Accurately bee-spaced

(Patent application in preparation.)

Ask for our Free Catalog

The A. H. HALE CO. **Hapeville, Georgia**



(Continued from previous page)

ship which can do a great deal to increase honey sales if it has proper leadership and a definite program. Given a workable program someone must take the lead in carrying it through in an organized fashion. It means that each meeting must be planned in advance, speakers arranged for, and a host of minor details taken care of. Above all, it means that someone must do a lot of hard groundwork with little or no thanks, but it must be done.

LIVE AND LEARN

(Continued from page 540)

said was prime. I think that this was caused entirely by the fact that it was held over a day in the settling tank. A two months' drought was broken on the day I started to extract, and it rained steadily all the time I was trying to clarify and bottle the honey.

I CAN'T FIGURE what the crop will be this year. Nearly every hive filled every available space within the brood nest with honey, and did not go into the supers until there just wasn't a single cell below that had room for another drop. Most hives are so crammed that I may have to relax a rigid rule never to take honey from the brood nest. I may have to do it, not through greediness, but to give the queen a chance to lay an egg now and then. Yes, they say that bees always respect a bee space, but my bees don't seem to respect any rule. I have talked with a number of beekeepers, and they all seem to be having the same trouble. Must be something in the air. Or, is it a sign that it is going to be a tough winter?

REMOVAL OF MOISTURE FROM HONEY

(Continued from page 535)

effects of moisture removal from the drops of honey on the top bars of frames will give an indication of the moisture removal from the honey in the combs.

Moisture removal may be more necessary in some seasons than in others, but at any time it is added insurance for the production of a quality product. In addition warm combs from a heating room will extract much more readily than will cold combs. Moisture removal is a factor the beekeeper should not overlook.

Send for our Free Label Catalog showing 70 different beautiful labels.

The A. I. Root Company
Medina, Ohio

Package Bees & Queens
Quality & Service
C. F. KOEHNEN & SONS
Glenn, California

Peace is for the strong . . .
Buy U. S. Defense Bonds regularly!

QUEENS QUEENS QUEENS

"ITALIANS"

We offer you young laying queens, shipped prepaid, airmail. Mark colonies with old and failing queens and replace when conditions are favorable. Queens available until November 1st. Clipped and painted at no extra cost.

1-9	.75 ea.
10-up	.70 ea.
Tested Queens	$1.50 ea.

Quality Does Not Cost — It Pays

THE WILBANKS APIARIES CLAXTON, GEORGIA

YORK'S QUALITY BRED QUEENS
TWO STRAINS
Queens Bred Up to a Quality, Not Down to a Price

YORK'S ITALIANS		DADANT STARLINES	
1-24	$1.00	1-24	$1.35
24-99	.90	24-99	1.25
100-up	.80	100-up	1.15

Reg. U. S. Pat. Off.

The Preference of Leading Honey Producers

YORK BEE COMPANY JESUP, GEORGIA U. S. A.
(The Universal Apiaries)

YOUR BEST INSURANCE

FOR A BETTER HONEY CROP in 1954 is to requeen now with Ladylike Caucasian queens. They get results for others; they will make a better crop for you if properly handled.

Prompt shipment. Circular free.

LADYLIKE CAUCASIAN QUEENS

1-11	$1.10 each
12-24	1.00 each
25-50	.90 each
50 or more	.75 each

CAUCASIAN APIARIES
Castleberry, Ala.

SELECTED ITALIAN QUEENS
any number 75c

CAUCASIANS
90c

All queens shipped Air Mail and guaranteed to please. From June 1st to Nov. 1st.

Walter D. Leverette Apiaries

P.O. Box 364 Fort Pierce, Fla.

If you are taking time to read, why not read the best? Condensed to save you time. Illustrated to give you pleasure.

Modern Beekeeping
The Picture Bee Magazine
Box 210 Clarkson, Kentucky

A TALK BY M. J. DEYELL

(Continued from page 562)

crop. It seems that the main honey flow in most parts of Alberta lasts about 15 days. This being the case it is extremely necessary to have colonies up to the maximum strength at the right time in order to secure the maximum crop of honey.

Quite a number of beekeepers, in fact, most of the beekeepers in the province still kill their bees in the fall and then buy packages the following spring, leaving enough honey and pollen in each brood chamber to give the bees a good start the following spring. There is usually an abundance of honey plants such as willow and dandelion throughout the state to give package bees a rapid build-up.

The long warm days and cool nights seem to be unusually favorable for nectar secretion throughout the province. In the northern part of Alberta the sun shines for sixteen hours of each day during midsummer. The bees apparently take advantage of this condition and store large crops. Soil and climate conditions appear to be just right for nectar secretion.

(to be continued next month)

THE AUSTRALASIAN BEEKEEPER

The senior beekeeping journal of the Southern Hemisphere provides a complete cover of all beekeeping topics in one of the world's largest honey producing countries. Published monthly by Pender Bros. Pty. Ltd., Box 20, P. O., Maitland, 3N. N. S. W., Australia. Subscription by Bank Draft or International M. O. 18/- (approx. $2.15) per year, post free. Sample copy free on request.

GOOD QUEENS? We have them. Three-Banded Italians only. Tops in production and gentleness. The choice of leading beekeepers for more than 30 years. Requeen now for good wintering and maximum production next year.
$1.00 each 10, $9.00 25, $20.00 100, $80.00
Prompt shipment. Postpaid. No disease.
H. C. SHORT, Fitzpatrick, Ala.

DADANT'S STARLINE HYBRIDS

Reg. U.S. Pat. Off.

ITALIAN QUEENS PACKAGE BEES
Packages With Young Laying Queen
At the Following Prices:

	1-9	10-99	100-up
2 lb.	$3.25	$3.00	$2.75
3 lb.	4.25	4.00	3.75
4 lb.	5.25	5.00	4.75

After July 1, Queens $1.00 each—Starline Hybrids $1.25
We guarantee safe arrival, a health certificate with each shipment, and prompt service.
Our Queens are reared under my own personal supervision, our aim is QUALITY NOT QUANTITY.
LITTLE'S APIARIES P. O. Box 122 Shelbyville, Tennessee

IT PAYS TO REQUEEN

WITH HOLLOPETER'S Italian Queens, reared in the mountains of the North from stock full of vim, vigor, and vitality. Quality and service — the best during fall honey flow.

— Prices —

1-9	$1.00	each
10-24	.90	"
25-49	.80	"
50-99	.75	"
100-up	.70	"

White Pine Bee Farms
Rockton, Pa.

QUEENS

Italians or Caucasians

This is your chance to get some of the best queens on the market at such a low price. Young mated and live arrival guaranteed. Clipped, marked and air mailed at your request.

Prices:

1-25 lots	75c
25-50 lots	65c
100 up	60c

FARRIS HOMAN
Shannon, Miss.

ITALIAN

Queens Queens
Nice large queens, 55c
MITCHELL'S APIARIES
Bunkie, La.

Booking orders now. Over 30 years a shipper. Send for Free Circulars.

BLUE BONNET APIARIES
Weslaco, Texas

Look for this Sign
When you Want
QUALITY AT LOW COST

Trade Mk. Reg.
U. S. Pat. Off.

KELLEY — "The Bee Man"

QUEENS

KELLEY ISLAND queens by the thousand are available now. If you are in a rush count on us for quick shipment by return air mail.

1-24 ..... 75c by prepaid air mail

25-up ..... 65c by prepaid air mail

THE WALTER T. KELLEY CO., Clarkson, Ky.

Peace is for the strong . . .
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Index to Display Advertisers

Achtenhagen, H. C. 516
Aeppler Co., C. W. 570
American Bee Journal 516
Australian Bee Journal 518
Australasian Beekeeper 574
Bemis Bros. Bag Co. 519
Bessonet Bee Co. 570
Blue Bonnet Apiaries 575
British Bee Journal 513
Bryant & Sawyer 515
Burleson & Son, T. W. 516
Calvert Apiaries 571
Canadian Bee Journal 515
Caucasian Apiaries 574
Chrysler & Son, W. A. 518
Dadant & Sons ..... Inside front cover
Foster, Howard 572
Garon Bee Co. 572
Girardeau Apiaries 571
Hale Co., The A. H. 573
Hann, Albert G. 570
Harper, Carlus T. 571
Hazel-Atlas Glass Co. ..... Inside back cover
Homan, Farris 575
Hubbard Apiaries 515
Hutchison Mfg. Co. 518
Jackson Apiaries 570
Jensen's Apiaries 572
Jepson, H. H. 515
Kelley Co., The Walter T. 577
Koehnen & Sons, C. F. 573
Leverette, Walter D. 574
Little's Apiaries 575
Lotz Co., August 515
McCord Mfg. Co. 518
Marshfield Mfg. Co. 517
Merrill Bee Co. 516
Miller & Co., Woodrow 518
Mitchell's Apiaries 575
Modern Beekeeping 574
Muth Co., The Fred W. 515
New Zealand Beekeeper 516
Plant, W. E. 570
Prairie View Honey Co. 514
Root Co., A. I. Back cover 519, 520
Root Co. of Indianapolis, A. I. 516
Root Co. of Syracuse, A. I. 514
Rossman Apiaries 571
Short, H. C. 575
Stoller Honey Farms 518
Weaver, Howard 572
White Pine Bee Farms 575
Wilbanks Apiaries 574
Williams Bros. Mfg. Co. 513
Winegar, Leon A. 516
Wirth, E. D. 518
Woodman Co., A. G. 516
Yates, A. W. 514
York Bee Co. 574